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A Service Paper

INTRODUCING THE UNIT METHOD INTO A SEVENTH-GRADE TEXTBOOK COURSE IN GEOGRAPHY

Submitted by

Marie Randall

(B.S. in Ed., State Teachers College,
Bridgewater, Massachusetts, 1937)

In partial fulfillment of requirements for

the degree of Master of Education

1946

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TABLE OF CONTENTS

Chapter		Page
I	INTRODUCTION	1
	The Purpose of the Paper	1
	The Situation	1
	The pupils	1
	The classroom	4
	Duplicating facilities	6
	The course	6
	Organization for Unit Teaching	8
	The basis of the organization	8
	Changes in the classroom	8
	Preparing the pupils	11
	The experimental group	12
II	A SURVEY UNIT FOR THE SEVENTH-GRADE GEOGRAPHY COURSE	13
	The Unit	13
	The Delimitation of the Unit	13
	Probable Incidental Learning Products	17
	The Unit Assignment	18
	Introductory activities	18
	Core activities	18
	Optional related activities	25
	Special Study Guides and Progress Tests	32
	A Vocabulary Test	34

(continued on the next page)

TABLE OF CONTENTS (continued)

Chapter — Page

II A SURVEY UNIT FOR THE SEVENTH-GRADE GEOGRAPHY COURSE (continued)

Special Study Guides and Progress Tests (continued)

Information to Find on a Physical-Political Map 37

Finding Regions on a Map 38

Some Things to Know About Graphs 40

A Test on Graphs 41

Reading Graphs 42

Directions for Clipping Magazine Articles to Be Used for Making Booklets 43

Directions for Making Booklets 44

The Mastery Test 46

List of Books and Materials for Pupils' Use 58

Free Commercial Publications 61

Report on the Teaching of the Unit 63

Explanation of the unit to the pupils 63

Observations as to pupil progress during the work periods 66

The vocabulary test 70

The special study guides and progress tests 71

The mastery test 75

Pupils' opinion of the unit assignment 73

Unit summaries written by pupils 82

(continued on the next page)

TABLE OF CONTENTS (continued)

Chapter Page

II A SURVEY UNIT FOR THE SEVENTH-GRADE GEOGRAPHY COURSE (continued)

Special Study Guides and Progress Tests (continued)

Information to Find on a Physical-Political Map 37

Finding Regions on a Map 38

Some Things to Know About Graphs 40

A Test on Graphs 41

Reading Graphs 42

Directions for Clipping Magazine Articles to Be Used for Making Booklets 43

Directions for Making Booklets 44

The Mastery Test 46

List of Books and Materials for Pupils' Use 58

Free Commercial Publications 61

Report on the Teaching of the Unit 62

Explanation of the unit to the pupils 65

Observations as to pupil progress during the work periods 66

The vocabulary test 70

The special study guides and progress tests 71

The mastery test 75

Pupils' opinion of the unit experiment 79

Unit summaries written by pupils 83

(continued on the next page)

TABLE OF CONTENTS (continued)

Chapter		Page
III	A UNIT ON FARMING IN THE UNITED STATES	
	The Unit	83
	The Delimitation of the Unit	83
	Probable Incidental Learning Products	93
	The Unit Assignment	94
	Introductory activities	94
	Core activities	94
	Optional related activities	104
	Special Study Guides and Progress Tests	
	A Vocabulary Test	111
	The Corn Belt	112
	The Cotton Belt	113
	Progress Test I	115
	Progress Test II	116
	Progress Test III	118
	Progress Test IV	120
	Progress Test V	122
	The Mastery Test	124
	Report on the Teaching of the Unit	136
	Preliminary explanations and directions	136
	Library Rules	139
	Librarian's Duties	140
	The vocabulary test	141

(continued on the next page)

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TABLE OF CONTENTS (continued)

Chapter Page

III A UNIT ON FARMING IN THE UNITED STATES (continued)

Report on the Teaching of the Unit (continued)

Special study guides and progress tests 143

The mastery test 144

The unit summaries written by the pupils 148

The pupils' opinion of the unit activities and books used 150

IV THE ADVANTAGES AND DISADVANTAGES OF UNIT TEACHING IN A SITUATION WHERE A SINGLE TEXTBOOK IS THE COURSE 160

APPENDIX

Summaries Written by the Pupils for Unit One 170

Summaries Written by the Pupils for Unit Two 170

A Chart for Studying the Growth of Individual Pupils and the Evaluation of the Test Items of the Mastery Test of Unit One

The Beginning Segment 177

The End Segment 178

A Chart for Studying the Growth of Individual Pupils and the Evaluation of the Test Items of the Mastery Test of Unit Two

The Beginning Segment 179

The End Segment 180

A Source List of Articles for Reading and Reporting from The Reader's Digest 181

(continued on the next page)

TABLE OF CONTENTS (continued)

Chapter Page

APPENDIX (continued)

A Source List of Articles for Reading and Reporting from The National Geographic Magazine 189

Magazine Articles Clipped and Filed in the Classroom Library

From The Saturday Evening Post 194

From Life 197

The Winnetka Chart for Determining Grade Placement of Children's Books 199

LIST OF TABLES AND CHARTS

Table		Page
1.	The Chronological Age of 106 Seventh-Grade Pupils Grouped in Three Class Divisions	3
2.	Marks of 99 Seventh-Grade Pupils in Geography at the End of the Sixth-Grade Year	4
3.	Grade Level of Reading Ability of 106 Seventh-Grade Pupils As Obtained From Scores on the Iowa Silent Reading Tests Given the Fall Semester	5
4.	Sources of Books for the Classroom Library	10
5.	Vocabulary Achievement of 33 Pupils Based on the Difference of Two Test Scores	71
6.	Distribution of Scores and the Number of Pupils Failing Each Item of the Exercise, Finding Regions on a Map	73
7.	Results of the Spelling Test Given As a Partial Check on Activity 6	75
8.	Distribution of Time Required for 33 Pupils to Take the Mastery Test for Unit One	76
9.	Pupil Interest in Core Activities As Reported on Questionnaire	79
10.	Difficulty of Core Activity Items As Reported on Questionnaire by Pupils	80
11.	Pupil Attitude As to Whether the Core Activities Were Worthwhile Based on Questionnaire Report	81
12.	A Comparison of the Pre-Test Scores With the Final Test Scores on the Vocabulary Test	142
13.	Vocabulary Achievement of 37 Pupils Based on the Difference of Two Test Scores	143
14.	Distribution of Time Required for 108 Pupils to Take the True-False Mastery Test	145
15.	Pupil Interest in Core Activities As Reported on Questionnaire	152

(continued on the next page)

LIST OF TABLES AND CHARTS (continued)

Table — Page

16. Pupil Attitude As to Whether the Core Activities Were Worthwhile Based on Questionnaire Report.... 154

17. Difficulty of Core Activity Items As Reported by the Pupils on Questionnaire..... 156

18. How Pupils Rated the Books Used to Study the Unit 158

A Chart of Skills Needed by Pupils to Successfully Complete the Exercise, Finding Regions on a Map.....72

A Relative Growth Scale for 106 Seventh-Grade Pupils Based on Their Scores on the Mastery Test for Unit One.....77

A Summary of the Pupils' Comments About the Mastery Test.....78

A Summary of the Pupils' Comments About the Mastery Test.....146

A Relative Growth Scale for 108 Seventh-Grade Pupils Based on Their Scores on the Mastery Test for the Second Unit.....149

Charts for Studying the Growth of the Individual Pupils and the Evaluation of the Test Items of the Mastery Tests.....177-180

LIST OF TABLES AND CHARTS (continued)

Table Page

16. Pupil Attitude As to Whether the Core Activities Were Worthwhile Based on Questionnaire Report.... 154

17. Difficulty of Core Activity Items As Reported by the Pupils on Questionnaire..... 156

18. How Pupils Rated the Books Used to Study the Unit 158

A Chart of Skills Needed by Pupils to Successfully Complete the Exercise, Finding Reptiles on a Map..... 72

A Relative Growth Scale for 106 Seventh-Grade Pupils Based on Their Scores on the Mastery Test for Unit One..... 77

A Summary of the Pupils' Comments About the Mastery Test..... 78

A Summary of the Pupils' Comments About the Mastery Test..... 146

A Relative Growth Scale for 108 Seventh-Grade Pupils Based on Their Scores on the Mastery Test for the Second Unit..... 149

Charts for Studying the Growth of the Individual Pupils and the Evaluation of the Test Items of the Mastery Tests..... 177-180

CHAPTER I

INTRODUCTION

The Purpose of the Paper

For several years the writer has noted that one third or more of the pupils enrolled in her classes have found seventh-grade geography difficult and uninteresting. This disturbing observation has provoked a determination to find an answer to the following questions:

1. Why do so many pupils find geography difficult?
2. Why are the pupils disinterested in geography?
3. What can be done to improve the geography course?

Answering these questions involves a study of the pupils, the classroom situation, and the materials of the course. The following paragraphs are devoted to a brief discussion of these matters. Since it is the intention of the writer to have this information serve as an introductory setting for the units of work which this paper chiefly concerns, these questions will not be considered in detail.

The Situation

The pupils.-- The seventh grade in question has an enrollment of 106 pupils. 63 are boys and 43 are girls. These pupils are heterogenously divided into three classes

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The Situation

The pupils.--- The seventh grade in question has an enrollment of 108 pupils. 65 are boys and 43 are girls. These pupils are heterogeneously divided into three classes

known as 7A, 7B, and 7C. No intelligence test records are available. Therefore only data concerning chronological age, promotion, marks given by former teachers, and the reading levels as recorded in the results of standard tests can be reported.

The wide range in chronological ages of these pupils can be seen in Table 1 on page 3. A study of the promotion records revealed that only 72 pupils, approximately two thirds of the group, have a normal age-grade status, while 21 pupils are one year retarded, 10 are two years retarded, and 3 are three years retarded. Seven pupils, or nearly one fourth of those retarded, are repeating grade seven. On the assumption that "the chief cause of overageness within a grade is a mental age below normal" 1/, about one third of the pupils can be considered slow, and may be expected to find the work somewhat difficult.

Marks for geography in the sixth grade are given for 99 of these pupils on the promotion records. (The other seven pupils are repeating grade seven this year.) Since these pupils have come to grade seven from three different schools, these marks represent the estimates of three different teachers. Table 2 on page four reveals that approximately one third of the group had failed sixth-grade

1/ William A. McCall, How to Measure in Education, The Macmillan Company, New York, 1922, p.22.

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1/ William A. McCall, How to Measure in Education, The Macmillan Company, New York, 1922, p.221.

geography. This fact helps to account for some of the disinterest and also the difficulty these pupils have in grade seven.

Table 1. The Chronological Age* of 106 Seventh-Grade Pupils Grouped in Three Class Divisions.

Age in Years and Months	Number of Pupils 7A	7B	7C	Age in Years and Months	Number of Pupils 7A	7B	7C
16-6	-	-	1	13-3	-	-	1
				13-2	1	1	-
15-4	-	1	-	13-1	-	2	-
15-3	-	-	1	13-0	-	1	-
15-2	-	1	-	12-11	-	1	-
15-1	-	-	1	12-10	-	1	1
15-0	-	-	-	12-9	1	-	1
14-11	-	-	1	12-8	1	-	2
14-10	-	-	-	12-7	-	1	1
14-9	-	-	-	12-6	3	3	4
14-8	-	-	-	12-5	2	-	3
14-7	-	-	-	12-4	4	4	-
14-6	1	1	-	12-3	2	1	2
14-5	-	-	-	12-2	-	4	2
14-4	-	1	1	12-1	-	1	2
14-3	-	-	-	12-0	2	1	1
14-2	-	-	-	11-11	5	1	-
14-1	-	1	1	11-10	1	-	-
14-0	-	1	-	11-9	4	-	-
13-11	-	-	-	11-8	1	-	1
13-10	-	-	-	11-7	2	-	-
13-9	-	2	1	11-6	2	1	-
13-8	-	1	2	11-5	1	-	-
13-7	1	1	1	11-4	1	-	-
13-6	-	-	1	11-3	1	-	-
13-5	-	-	-	11-2	1	-	1
13-4	-	2	1	Total	37	35	34

* Chronological Age as of October 1.

Table 1. The Chronological Ages* of 108 Seventh-Grade Pupils Grouped in Three Class Divisions.

Age in Years and Months	Number of Pupils			Age in Years and Months	Number of Pupils		
	7A	7B	7C		7A	7B	7C
13-8	-	-	1	13-5	-	-	1
				13-3	1	1	-
13-4	-	1	-	13-1	-	3	-
13-3	-	-	1	12-10	-	1	-
13-2	-	1	-	12-11	-	1	-
13-1	-	-	1	12-10	-	1	1
13-0	-	-	-	12-9	1	-	1
12-11	-	-	1	12-8	1	-	2
12-10	-	-	-	12-7	-	1	1
12-9	-	-	-	12-6	3	3	4
12-8	-	-	-	12-5	2	4	3
12-7	-	-	-	12-4	4	4	-
12-6	1	1	-	12-3	2	1	2
12-5	-	-	-	12-2	-	4	2
12-4	-	1	1	12-1	-	1	2
12-3	-	-	-	12-0	2	1	1
12-2	-	-	-	11-11	2	1	-
12-1	-	1	1	11-10	1	-	-
12-0	-	1	-	11-9	4	-	-
11-11	-	-	-	11-8	1	-	1
11-10	-	-	-	11-7	2	-	-
11-9	-	2	1	11-6	2	1	-
11-8	-	2	1	11-5	1	-	-
11-7	1	1	1	11-4	1	-	-
11-6	-	1	-	11-3	1	-	-
11-5	-	1	-	11-2	1	-	1
11-4	-	2	1	Total	37	35	34

* Chronological Age as of October 1.

Table 2. Marks of 99 Seventh-Grade Pupils in Geography at the End of the Sixth-Grade Year.

Ranks	A 90-100%	B 80-89%	C 70-79%	D Below 70% Failing
Number of Pupils	6	30	32	31

In October, the Iowa Silent Reading Test was given to the seventh-grade classes. In the writer's opinion, these tests offer a better explanation as to why the pupils find geography difficult and uninteresting than the factors of retardation and previous marks. Test results are recorded in Table 3 on page 5. It will be noted that the pupils vary in reading ability from the fifth grade level to college level. 7A has the widest range of ability, while 7C has the greatest number of pupils with a reading handicap.

The classroom.-- With forty-two stationary seats and desks, one table, the teacher's desk and chair, and one book case, the classroom can be considered that of the traditional type. Additional equipment includes two bulletin boards, one physical-political wall map of the world, a blank outline map of the world and of the United States, political maps of Europe, Asia, Africa, and the United States, and an obsolete globe. About one third of the perimeter of the wall space is covered with slate blackboard.

Table 2. Marks of 39 Seventh-Grade Pupils in Geography at the End of the Sixth-Grade Year.

Marks	A 90-100%	B 80-89%	C 70-79%	D Below 70% Failing
Number of Pupils	6	30	82	81

Table 3. Grade Level of the Reading Ability of 106 Seventh-Grade Pupils As Obtained From Scores on the Iowa Silent Reading Tests Given in the Fall Semester

Grade Level	Number of Pupils 7A	7B	7C	Grade Level	Number of Pupils 7A	7B	7C
15.5	1	-	-	8.6	-	-	-
				8.5	1	1	1
12.3	2	1	-	8.4	-	-	-
12.2	-	-	-	8.3	3	3	-
12.1	-	-	-	8.2	2	-	1
12.0	-	-	-	8.1	-	-	-
11.9	-	1	1	8.0	1	2	3
11.8	-	-	-	7.9	-	1	1
11.7	-	-	-	7.8	-	-	-
11.6	-	-	1	7.7	3	-	1
11.5	-	-	-	7.6	1	-	2
11.4	-	-	-	7.5	2	1	2
11.3	2	-	-	7.4	1	-	-
11.2	-	-	-	7.3	1	1	-
11.1	-	-	-	7.2	1	1	1
11.0	1	-	-	7.1	-	2	1
10.9	-	-	-	7.0	-	-	-
10.8	-	-	-	6.9	-	-	1
10.7	-	-	-	6.8	-	1	-
10.6	-	-	-	6.7	1	-	1
10.5	1	-	-	6.6	-	1	-
10.4	-	-	-	6.5	-	-	2
10.3	2	2	-	6.4	-	-	-
10.2	-	-	-	6.3	-	3	1
10.1	-	-	-	6.2	-	-	1
10.0	-	-	1	6.1	-	-	4
9.9	-	-	-	6.0	-	1	-
9.8	-	-	1	5.9	-	-	-
9.7	-	-	-	5.8	-	2	-
9.6	1	-	-	5.7	-	-	1
9.5	-	-	-	5.6	1	1	1
9.4	2	1	-	5.5	-	1	1
9.3	-	-	-	5.4	-	-	1
9.2	1	1	-	5.3	-	-	1
9.1	-	-	-	5.2	1	-	-
9.0	-	-	-	5.1	-	-	1
8.9	-	-	-	Not			
8.8	3	1	1	Tested	-	5	-
8.7	2	1	-	Total	37	35	34

Table 3. Grade Level of the Reading Ability of 106 Seventh-Grade Pupils As Obtained From Scores on the Iowa Silent Reading Tests Given in the Fall Semester

Grade Level	Number of Pupils			Grade Level	Number of Pupils		
	7A	7B	7C		7A	7B	7C
13.5	1	-	-	8.6	-	-	-
				8.5	1	1	1
12.3	2	1	-	8.4	-	-	-
12.2	-	-	-	8.3	3	3	-
12.1	-	-	-	8.2	2	-	1
12.0	-	-	-	8.1	-	-	-
11.9	-	1	1	8.0	1	2	2
11.8	-	-	-	7.9	-	1	1
11.7	-	-	-	7.8	-	-	-
11.6	-	-	1	7.7	2	-	1
11.5	-	-	-	7.6	1	2	2
11.4	-	-	-	7.5	2	1	2
11.3	2	-	-	7.4	1	-	-
11.2	-	-	-	7.3	1	1	1
11.1	-	-	-	7.2	1	1	1
11.0	1	-	-	7.1	-	2	1
10.8	-	-	-	7.0	-	-	-
10.8	-	-	-	6.9	-	-	1
10.7	-	-	-	6.8	-	1	-
10.6	-	-	-	6.7	1	-	1
10.5	1	-	-	6.6	-	1	-
10.4	-	-	-	6.5	-	-	2
10.3	2	2	-	6.4	-	3	1
10.2	-	-	-	6.3	-	-	1
10.1	-	-	-	6.2	-	-	1
10.0	-	-	1	6.1	-	-	4
9.9	-	-	-	6.0	-	1	-
9.8	-	-	1	5.8	-	-	-
9.7	-	-	-	5.8	-	2	-
9.6	1	-	-	5.7	-	-	1
9.5	-	-	-	5.6	1	1	1
9.4	2	1	-	5.5	-	1	1
9.3	-	-	-	5.4	-	-	1
9.2	1	1	-	5.3	-	-	1
9.1	-	-	-	5.2	1	-	-
9.0	-	-	-	5.1	-	-	1
8.9	-	-	-	Job			
8.8	5	1	-	Tested	-	5	-
8.7	2	1	-	Total	37	35	34

Duplicating facilities.-- Duplicating facilities in this situation are limited and inconvenient. The only duplicating device in the building - a rather ancient hand operated Neostyle mimeograph machine - is located in the principal's office. A more modern chemical duplicator is located in the superintendent's office in another building a half mile away. Special carbons and paper, not supplied to the teachers,are necessary for the machine in the superintendent's office. Stencils and paper for the mimeograph machine are not always available either, because this machine is not often used. It is not used because it produces such poor copies.

At the writer's suggestion, which was carried out months after it was made, the mimeograph machine was taken apart, thoroughly cleaned, equipped with a new pad, and freshly inked. It then produced excellent copies and could be used for the work of the second unit which was taught in May. However, stencils for most of the work had to be provided at the writer's expense. Also the work of typing and duplicating had to be done by the writer.

The course.-- Each pupil is supplied with the same textbook. The content of this textbook is the course. In this seventh-grade situation the textbook of the course is "The United States in the Modern World". 1/

1/ William R. McConnell, The United States in the Modern World Rand McNally and Company. New York, 1939. viii + 305 pages.

The topical organization of this book and of the course is as follows:

Unit One	What We Have to Help Us Live Well
Unit Two	Working on American Farms
Unit Three	Fishing in American Waters
Unit Four	At Work in the Woods
Unit Five	At Work in Mine and Quarry
Unit Six	Sources of Power
Unit Seven	At Work in Mill and Factory
Unit Eight	Trade and Transportation

Twenty-four weeks, or three fifths of the school year, are devoted to the study of geography. The rest of the year is reserved for the study of United States history. Classes meet every school day for a fifty-five minute period.

In an effort to determine why the pupils find geography difficult, the writer evaluated this textbook and found it to be 8.2 in reading difficulty according to the Winnetka Chart.[1/] Since Table 3 shows 35 pupils with a reading level of 8.2 and above, less than one third of this group may be expected to read the textbook easily. These facts make it obvious that the textbook now in use is not serving the needs and interests of the pupils concerned. How, then should the course be improved?

1/ Mabel Vogel Morphett, Vivian Weedon, and Carleton Washburne, Winnetka Chart for Determining Grade Placement of Children's Books. Winnetka Public Schools, Winnetka, Illinois.

Organization for Unit Teaching

The basis for organizing the course into units.-- In the writer's opinion, the choice of another textbook would come no nearer solving the basic difficulties, because no one book could be expected to interest a group with such a wide range in age or one in which the reading levels varied so greatly. Seeking a better basis for organization, the writer enrolled in a course entitled "The Unit Method in the Secondary School" offered at the Boston University School of Education and instructed by Dr. Roy O. Billett. In this course and in the book written by the instructor [1] a better understanding of the problems and the solution of them was gained. Chapters II and III of this paper have been written to show how this knowledge was applied to the writer's teaching situation and with what results.

Changes in the classroom.-- Successful unit teaching involves a change in the classroom situation as well as in the materials of the course. The problems encountered by the writer in this respect could not be fully solved since they are partly a matter of administration and not classroom teaching.

Two bulletin boards and a two-drawer transfer case to serve as a file were secured as a means of improving the equipment of the classroom. The bulletin boards were

1/ Roy O. Billett, Fundamentals of Secondary School Teaching, Houghton Mifflin Company, Boston, Massachusetts. 1940 xvi + 671 pages.

obtained from the manual training department. The writer had placed an order for these boards two years previously and had not obtained them at that time because material was not available. When a limited supply of material was purchased this year for bulletin boards in another school, the writer was able to obtain the two boards on the basis of the previous order. A number of transfer cases were purchased by the school department when the local Office of Price Administration was dissolved. The superintendent consented to loan one of them to the writer for use during the teaching of the units. Because this case could not be used for papers measuring more than 9 inches by 12 inches, it was not altogether satisfactory as a file. However, it was better than the orange crates which had to be used to store some of the additional supplementary materials.

The bookcase was turned into a classroom library when 99 supplementary books were obtained and arranged with a card system so that the pupils might borrow them at will. The card pockets and cards for keeping a record of the books borrowed were purchased by the writer. The sources of books for this classroom library are shown in Table 4 on the next page.

A file of pictures for bulletin board displays was arranged from clippings made by the writer from current magazines. The most valuable sources of pictures for this file proved to be "Life" and "The Saturday Evening Post".

Table 4. Sources of Books for the Classroom Library

Number of Books	Source
38	Special purchase by the school department.
14	Sample books from the office of the superintendent.
13	Loaned by the Public Library.
27	From the classroom bookshelf.
6	Sample copies sent by publishing companies to writer.
1	Purchased by writer.
Total 99	

Since some of the articles in these magazines, and others, could be used as supplementary reading, they were clipped and made into booklets, and filed. A description of these booklets can be found in the special study guide, Directions for Making Booklets, of the first unit, Chapter II. The sources of these articles are listed in the Appendix.

A library of "The National Geographic Magazine" was started from magazines brought in by the pupils. The pupils also brought in many copies of "Life" and "The Saturday Evening Post" which were stored and used for a source of clippings and pictures.

A library of "The Reader's Digest" was also arranged. A case was built according to the writer's specifications

and at the writer's expense to hold copies of the current issue back to the year 1939. The case has nine sections, each large enough to hold the issues for one year. The copies were placed in the section, or pocket, so that the lower ends were flush with the edge of the case. These ends were lettered with the name of the month and the year so that the pupils would be able to locate the information more easily. Many additional copies for this library were added by the pupils themselves after the writer had arranged her own collection in the case. These copies were marked "A Gift of (Pupil's Name)" and were available for loan outside the classroom. The original library copies were not loaned because it seemed desireable to keep this reference material complete.

Some commercial publications were obtained and added to the library and file. This material is listed with the books and material for pupil's use in Chapter II.

Preparing the pupils.-- The procedure for studying geography to which the pupils seem to be most accustomed as they enter the seventh-grade is one in which the pupils read the textbook orally in class, discuss the important points as they occur, and listen to whatever explanations, supplementary information, or oral instructions the teacher may offer. The pupils show a decided lack of ability to follow written directions. To prepare these pupils for unit

work in which they must assume more responsibility in finding information for themselves, and receive much more of their guidance and direction from written instructions, rather than oral, the writer introduced study assignment sheets in the history course which preceded the geography course. At first, these study assignment sheets were for one lesson. Then they were gradually lengthened to cover a week's work. This plan not only served to introduce the pupils to a unit assignment, but informed the writer as to the type of question best suited to the pupil's level of comprehension, ability, and interest, and the amount of detail necessary in order to have instructions interpreted correctly.

The experimental group.-- After observing the pupils at work, and taking into consideration the limited amount of supplementary reading material, and inadequate facilities for duplicating the necessary study guides, the writer considered it unwise to attempt experimental unit teaching with the entire seventh grade. Since 7A proved to be the group that most easily adapted itself, benefited most by written directions and independent study, represented the group with the widest range in reading ability, and seemed to be more typical of seventh-graders in interest and ability, this class was chosen. Therefore the teaching of the units of the next two chapters of this paper concerns the 7A division only. The first unit was taught in January, the Second in May.

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CHAPTER II

A SURVEY UNIT FOR A SEVENTH-GRADE GEOGRAPHY COURSE

The Unit

The United States is one of the richest nations of the world. It is rich because it is a large country covering many different kinds of natural regions. It is rich because it has an abundance of natural resources and products, a favorable climate, and energetic,resourceful people.

The Delimitation of the Unit

1. The United States is a large country.
    a. The United States is the fourth largest country in the world. The Soviet Union, Canada, and Brazil are larger than the United States.
    b. The United States is a little larger than the continent of Australia and nearly as large as the continent of Europe.
    c. The United States includes one twentieth of the total land area of the world.
2. The United States has a variety of natural regions within its borders.
    a. The four great natural regions of the United States

are (1) the coastal lowland along the Atlantic Ocean and the Gulf of Mexico, (2) the Appalachian Highlands, (3) the interior plains, and (4) the western highlands.

b. The Appalachian Highland subdivides into the Piedmont Plateau, the Appalachian Mountains, and the Appalachian Plateau.

c. The interior plains subdivide into the Central Lowland and the Great Plains.

d. The western highlands subdivide into the Rocky Mountains, the Columbia Plateau, the Colorado Plateau, the Great Basin, and the Pacific Mountains and Valleys.

e. There are two scattered highland areas. These are the Laurentian Uplands and the Ozark Plateau, located north and south of the Central Lowland.

3. The United States has an abundance of natural resources and products.

a. Natural resources are anything provided by nature, such as, forests, soils, minerals, and water power.

b. Products, the materials people obtain by using their natural resources, may be classed as either raw materials or manufactured goods.

c. The United States has extensive farm lands on which to grow an abundance and variety of crops to feed

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a. Natural resources are anything provided by nature, such as, forests, soils, minerals, and water power.

b. Products, the materials people obtain by using their natural resources, may be classed as either raw materials or manufactured goods.

c. The United States has extensive farm lands on which to grow an abundance and variety of crops to feed

its people well and to provide raw materials for manufacturing.

d. The United States has an abundance of fish in its coastal waters and inland streams. It is near the Grand Banks of New Foundland, one of the greatest fishing grounds of the world.

e. The United States has rich deposits of such minerals as coal, petroleum, iron, copper, gold, silver, lead, and zinc.

f. The United States has extensive forests containing many species of useful woods. Although much of the forest area has been cleared, one fifth of the total area of the United States is still forested.

g. The United States has numerous sources of power. It has more coal than any other country. Two thirds of the world's petroleum comes from the United States. Also the United States is favored with an abundance of water power.

4. The United States has a favorable climate.

a. The United States is in the North Temperate belt where the temperature conditions are neither too hot nor too cold, and the seasonal changes help to give people energy for work.

b. The United States has a variable rainfall. (1) The heaviest rainfall area is in the Northeast. (2) The

Southwest has the least rainfall and desert conditions are found in that region. (3) In the Great Plains there is a light rainfall which is sufficient for growing grass. (4) In most of the eastern part of the United States there is an abundance of rainfall for growing crops. (5) The prevailing westerly winds and cyclonic storms bring rain to the United States.

c. Because of differences in temperature, rainfall conditions, and length of growing seasons, a variety of crops can be grown in the United States.

5. The United States has energetic and resourceful people.

a. The population of America is an immigrant population of mixed nationalities and races. Many Americans came from overcrowded older countries where it was difficult to make a living. They became inspired with ambition and enthusiasm to develop the resources of this new land and to provide themselves with a better living.

b. Americans have been ingenious in the invention of labor-saving devices and machines to make life more comfortable. Machines have helped to develop the industries of the United States and to increase the variety of products in its domestic and foreign trade.

c. The United States has more miles of improved highways, railroads, and airways than any other country and more vehicles to haul its goods.

6. The United States can produce nearly all the goods it needs. Since it produces more than it can use of such goods as petroleum, cotton, tobacco, coal, iron, and copper, it sells these products and the articles manufactured from them in foreign markets. The United States is dependent on other countries for such products as natural rubber, tin, coffee, and sugar.

Probable Incidental Learning Products

1. A desire to find and an increased ability in finding information in books other than the textbook.
2. An appreciation of and an interest in current magazines as a source of geographical information.
3. A desire to use and an increased ability in using maps, graphs, charts, and pictures as sources of information.
4. A habit of critical, evaluative thinking in regard to studying geography.
5. A habit of independent research and concentrated effort in studying geography.
6. A knowledge of the orderly arrangement of books and materials in a library and increased efficiency in the use of library resources.

7. A knowledge of how to write a summary.
8. A knowledge of how to write or give an oral report.
9. Increased skill in reading and taking notes in answer to specific questions.

The Unit Assignment

Introductory activities.-- An explanation by the teacher of the study guide and its use. This explanation is to include information as to what books and other materials the pupils are to use and where to find them. (A fuller account of these activities is given under the report of the teaching of this unit at the end of this chapter.)

A vocabulary test.

Core activities.-- The following activities make up the required work for all pupils.[1] All activities that are numbered appeared on the study activity guide which was mimeographed and placed in the hands of the pupils. The numbers in the parentheses following the questions indicate the references the pupils are to use in finding their information. The number before the colon means the book of the same number on the list of books the pupils were instructed to use. The numbers after the colon refer to the particular pages in the book which will give the information the pupil is seeking. The pupils are not

1/ Introductory activities are part of the core activities in this sense, but to distinguish them from the activities that appear on the pupils' study guides, they are listed under a separate heading.

7. A knowledge of how to write a summary.

8. A knowledge of how to write or give an oral report.

9. Increased skill in reading and taking notes in answer to specific questions.

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[1] Introductory activities are part of the core activities in this course, but to distinguish them from the activities that appear on the pupils' study guides, they are listed under a separate heading.

expected to use all the references for each activity. They are permitted to choose as many readings as they need to complete each assignment satisfactorily. The pupils are also permitted to choose the order in which they will complete these assignments.

1. People in other countries of the world think of the United States as "the land of opportunity" or "the promised land". Why do they have this idea? (7:7-21) (23:3-5,7-8) (47:33-35) (Optional Activity No.1)
2. The size of a country means its area in square miles. Which country is larger - United States or the Soviet Union? United States or Brazil? How does the United States compare in size with Canada? with China? How does the United States compare in size with the continents of Europe and Australia? What part of the total land area of the world is included within the borders of the United States? (7:8) (12:345) (35:74) (23:8,289) (24:50-51) (44:211) (Optional Activity No.3)
3. How has the size of the United States helped to make it a wealthy nation? (7:7-20) (23:7-15) (35:57-61) (43: 577) (44:211)
4. What is a natural region? (This is also called a natural physiographic region.) (23:10) (24:86)
5. Into how many great natural regions is the United States divided? What are the subdivisions of these

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total land area of the world is included within the
boundary of the United States? (7:8) (12:22-24) (22:24)
(23:8,23) (24:20-21) (44:21) (Optional Activity No.3)

3. How has the size of the United States helped to make it
a wealthy nation? (7:7-22) (23:7-12) (43:27-31) (45:
27) (44:21)

4. What is a natural region? (This is also called a natural
physiographic region.) (23:10) (24:26)

5. Into how many great natural regions is the United
States divided? What are the subdivisions of these

regions? Is the United States helped or hindered by so many different regions? Why? (7:8-12) (23:10-15) (24:51-66) (47:40-50)

6. Here are the names of places you will need to be able to locate and spell because you will find them used in other units this year. Consult these references for location. (7:9map) (23:10,16 maps) Learn to spell these names.

Coastal Plain	Great Plains
Piedmont Plateau	Rocky Mountains
Appalachian Mountains	Adirondacks
Central Lowland	Columbia Plateau
Colorado Plateau	Ozark Plateau
Appalachian Plateau	Great Basin

7. Maps are a geography tool. Study a physical-political map (23:16-17) and make a list of the different kinds of information you find on it. Check your list against the list on a paper entitled "Information to Find on a Physical-Political Map" which you may obtain from your teacher.
8. Prove that you know how to use a physical-political map. Ask your teacher for the assignment, "Finding Regions on a Map", Complete the assignment and pass it in for credit.
9. What do these terms mean: natural resources, manufactured goods or manufactured products, and raw materials?

5. What do these terms mean: natural resources, manufactured goods or manufactured products, and raw materials?

a. natural resources (16:4) (19) (21:125-137) (23:3-4,8-9) (35:59-61,78) (47:229) (44:216-217)

b. manufactured goods or manufactured products (16:170-199) (9:252-260) (35:73-74) (46:179-186) (36:204) (23:3-4)

c. raw materials (47:23) (9:252-260) (21:125-137)

10. Write a short paragraph describing the wealth of the United States. Use the three terms listed in Activity 9 in your paragraph. Pass in your paper for credit.

11. Prove this statement: The United States is a world leader in the agricultural industry. Make a list of the conditions which have helped this country to become a great farming nation. (9:191-193) (9:196-197 map) (23:8) (43:515-516) (44:150-151) (47:33) (8:74-77) (5:108,110)

12. How have the inland and coastal waters of the United States added to its resources and variety of products? (5:186-201) (9:100-105) (8:38-40) (23:4,88-89) (12:84-86) (7:80-84) (24:222-228) (47:151-160) (Optional Activity 6)

13. What eight minerals are found in great abundance in the United States? Where are the most important deposits? How have these minerals helped to make our country a wealthy nation? (12:241-256) (23:3-6)

(24:83) (19) (47:161-192)

14. What part of the total United States area is forested? Are these forest resources enough to supply the needs of the American people? What attitude should the American people have toward their forests? (7:20) (12:206-214) (24:564-565) (35:59-61) (43:570-575) (44:197-199)

15. What are three kinds of power resources the United States has? How extensive are these resources? (7:19) (12:215-220) (23:8) (43:585-591) (44:219-225)

16. List the conditions which have helped the most to make the United States one of the leading manufacturing nations of the world. How does the United States compare with other industrial nations? (12:111-122) (7:19-20) (24:85) (5:203) (16:220-222) (36:294-301) (43:575-597) (44:207-231)

17. What is climate? Is there any difference between climate and weather? (9:50-52) (24:66) (19:91-92)

18. How is a country helped by a favorable climate? Is the climate of the United States favorable? Why? What is an energizing climate? (7:16) (23:20-22) (35:43-54) (24:79-84) (43:594-595) (44:228-229) (9:50-52)

19. United States has variable rainfall. What does the term variable rainfall mean? What causes these variable rainfall conditions? What are the advantages of

variable rainfall? (7:16-19) (23:22-24) (9:53-71) (36:79-86) (5:32-33)

20. Study the following references and be ready to discuss the questions below. (23:22-24) (9:69-70) (36:79-85)
    a. Why is the Great Plains a region of light rainfall?
    b. Why does the eastern United States have abundant rainfall?
    c. Why does the west coast receive the heaviest rainfall?

A lecture on cyclonic storms. (Teacher)

A lecture on the world wind system. (Teacher)

21. Why is the United States called a "melting pot"? From what countries have people come to make their homes in the United States? Why? How have they proved to be good Americans? (7:1-5) (35:3-42) (Optional Activity 15)

22. What adjectives would you use to characterize the American people? It has been said that the American people have a desire for novelty and improvement, or that they wish to do new things or to do old ones better. (23:172) Optional Activity 16)

23. What do these terms mean: domestic commerce, and foreign commerce? (23:217)

24. Why does the United States trade with other countries? Is the United States a self-sufficient country? How

dependent is our country on the other parts of the world? (25:2-18) (12:342-352) (24:573-607) (23:243-244) (35:525-537) (36:345-349)

25. You will find many graphs in your reading because they are another geography tool. They are used to show the facts you need to know. As you read, study the graphs you find, and decide how these questions should be answered:

    a. What kind of knowledge does a graph represent?

    b. Could what you learn from a graph be represented in any other way? How?

    c. Before a graph is drawn, what plans have to be made?

    d. Is the knowledge you obtain from a graph exact or only approximate? Why?

    e. What kinds of graphs are there? List the kinds you find.

    Make a list of the things you think you should know about graphs. Ask your teacher for a sheet entitled "Things to Know About Graphs". Compare the two lists. Take a progress test about graphs.

26. Prove that you know how to read a graph correctly. Ask for a special assignment sheet, "Reading Graphs". Complete the work and pass your paper in for credit.

27. Be prepared to write a summary of what you have learned

in this unit. The summary will answer this question: Is the United States one of the richest nations of the world? Why? You should be able to include information under these points:

a. The size of the United States.
b. The natural regions of the United States.
c. The natural resources of the United States.
d. The products of the industries of the United States.
e. The favorable climate of the United States.
f. The people of the United States.
g. The dependence of the United States on other countries.

Optional related activities.-- The following activities are not required. As the title implies, they are optional and some pupils may find it profitable and interesting to complete any activity of their choice. These activities were posted on the bulletin board and not included in the study guide.

1. Read: "The U.S.A.", an article in the Reader's Digest, April 1940, pages 1-7. Summarize the article in answer to this question: What makes the U.S.A. a wealthy nation?
2. Make a bar graph to show how the United States compares in size with the five largest countries of the world.

a. Decide which five countries are the largest countries of the world. (7:8) (23:8) (35:60)

b. List the five countries in order of size from the greatest to the smallest. Obtain figures for the area of each country. Write the figures beside the name of each country. (35:60) (23:265) (44:332-333)

c. Use a scale that represents millions of square miles and draw your graph.

d. Above the graph letter this title: The Area of the Five Largest Countries of the World.

e. Below your graph neatly letter several sentences which tell how the United States compares with the other countries in size.

3. Make a chart to show how the United States compares in size with Europe and Australia.

a. Obtain these materials:

Two half sheets of white 8½ by 11 inch typewriter paper.

Two sheets of 6 by 9 inch colored construction paper.

One 9 by 12 inch colored construction paper.

b. Trace the outline of the United State, of Europe and of Australia from a large map of the world.

c. Cut two silouette maps of the United States from the white paper and one silouette map of Europe and one silouette map of Australia from the

colored construction paper.

d. Mount one map of the United States on the top half of the large sheet of construction paper. Place the map of Australia over it.

e. Mount the outline map of Europe on the lower half of the large sheet of construction paper. Place the map of the United States over it.

f. Put this title at the top of your chart: How the **United States Compares in** Size with Australia and Europe.

g. Complete these sentences and put them below the chart to explain what you are illustrating.

The United States is _____ than Australia.

The United States is _____ than Europe.

References: (35:58) (23:7)

4. On a wall-size outline map of the United States, mark off the four natural regions with heavy black lines. Draw in the boundaries of the subdivisions using lighter lines. Neatly letter these names in the proper places:

Piedmont Plateau	Columbia Plateau
Appalachian Mountains	Colorado Plateau
Appalachian Plateau	Great Basin
Central Lowland	Pacific Mountains and Valleys
Great Plains	Ozark Plateau
Rocky Mountains	Laurentian Upland

Color the four great natural divisions with different colors. Be prepared to point out and name the states included in each division. (23:10,16-17) (7:8-12)

5. Make a report on one of the natural regions of the United States. In your report include answers to these questions:
    a. Where is the region located?
    b. What kind of a region is it? (lowland, mountain, grassland, desert, etc.)
    c. What are the natural resources of this region?
    d. What products does it supply?
    e. What proportion of the population lives in this region? Why?

    Find as many pictures as you can to illustrate this report. These pictures should show how the land looks and what activities the people engage in. (8) (22) (Compton's Encyclopedia) (The National Geographic Magazine)
6. Make a map showing the location of the most important fisheries in and around our country. (23:88) (8:38) (36:8-9) Reserve one corner for a bar graph to show the value of the fish products for certain regions. (7:Fig. 78)
7. On a large outline map of the United States, indicate the different forest regions by color. Make small sketches of the kinds of trees you would find in each region. Reserve a space in the lower left corner for a list of the kinds of trees in each region and the

principal uses made of them. Reserve space in the lower right corner for a circle graph which shows what proportion of the total land area of the United States is forested. (23:102) (12:206-207) (36:43-45)

8. On a large outline map of the United States, indicate the kinds of minerals and where they are found. Use symbols. Have a key to the symbols. Reserve a space at the bottom of the map in which to draw a circle graph for each mineral to show what share of the world's supply is found in the United States. (35:74-77) (7:19,88) (12:258,241-256) (23:3-6)
9. Make a poster with this title: Power Resources of the United States. Place on the poster a picture to illustrate:
   a. the coal industry
   b. the petroleum industry
   c. a hydro-electric plant

   Beneath each picture make a statement which tells how the United States compares with other countries in these resources. Make another statement which tells how much of the world's supply the United States produces. (7:19) (12:245,233) (23:5) (23:164-165)
10. Make a collection of pictures of typical scenes in the various parts of the United States. Mount these pictures on 9 by 12 inch colored construction paper and arrange

them on a bulletin board.

11. Make a picture graph to show that the United States is a leader in transportation and communication. (See picture graphs, 23:4-6, and consult 7:20 for the facts you will need.)

12. Collect pictures for, mount, and arrange a bulletin board with one of these titles:

    a. Raw Materials from Mines

    b. Raw Materials from the Forests

    c. Raw Materials from the Farm

    d. Manufactured Goods from Mines

    e. Manufactured Goods from the Forests

    f. Manufactured Goods from the Farm

    g. Natural Resources of the United States

13. If you are interested in new products that are a result of scientific research, read any one of the following articles and submit a brief report telling what new ideas you gained from your reading. Four or five sentences will be enough to write.

    These articles are to be found in the Reader's Digest

    a. Dawn of the Day of Nylon, February 1940, pages 47-50.

    b. Speeding Up Nature, May 1940, pages 69-71.

    c. Glass Magic, July 1940, pages 20-22.

    d. Wood Waste Magic, November 1940, pages 113-114.

    e. Jack of All Trades, January 1941, pages 99-102.

f. Our Wartime Wizardry With Aluminum, September 1942, pages 84-87,

g. Making Machine Parts from Metal Dust, May 1943, pages 100-102.

h. Tornado in a Box, November 1943, pages 20-23.

i. Tomorrow's Gasoline - Triptane, January 1944, pages 45-48.

j. Tomorrow's Menu, February 1944, page 15.

k. Mr. Saunders' Magic Glue, April 1944, pages 59-60.

l. Chemists Hit the Sawdust Jack Pot, June 1944, pages 50-52.

m. Super-wood Has Arrived, August 1944, pages 43-44.

14. Read and submit a brief summary of a story which illustrates the importance of rainfall in an arid desert town in Nevada. The Water's In, The Reader's Digest, June 1941, pages 101-103.

15. To gain a better understanding of the character of the American people, read and report on one of the following articles in The Reader's Digest:

a. The Americanization of an American, September 1940 pages 37-41.

b. Why I Came to America, April 1940, pages 17-19.

c. Chronicles of Americanization, February 1941, pages 7-11 and November 1941, pages 93-96.

16. Read and submit a brief summary of one of the following articles illustrating the resourcefulness of the American people.

a. Christmas-Tree Man by J.R.Sprague. (Booklet in classroom file.

b. Kid Capitalist by F. Parkhill. (Booklet in classroom file.

From The Reader's Digest:

c. This Age of Ingenuity, October 1942, pages 93-94.

d. What Ingenuity Has Done for Private Jones, September 1943, pages 55-59.

e. Old Man in a Hurry, January 1943, pages 49-52.

f. Now See Here - J. G., December 1945, pages 19-21.

g. Country Kitchen Goes to War, January 1940, pages 78-82.

h. Poison from the Sky, October 1939, pages 66-67.

i. Bonanza by the Roadside, March 1945, pages 91-93.

17. Clip an article from a current magazine that has to do with the resources and industries of the United States. Make a booklet for the classroom file. (See Source Lists and Directions for Making Booklets.)

18. Read one of the books on your list of books for a book report.

Special Study Guides and Progress Tests

To aid the pupils in completing certain of the activities in the unit assignment, special study guides were prepared. These guides not only served as a means of focusing the attention of the pupils on specific skills, and giving a better understanding of the activity involved, but also gave the teacher a check on the progress of the pupil as he worked. Such special guides and progress tests might

not be necessary in a situation where the pupils have already been introduced to independent study and research methods, but in the situation in which these two units were taught, these guides and tests later proved to be the only effective means of checking superficial studying.

The special study guides and progress tests used in connection with the first unit follow. They have been revised after the unit was taught, since the writer noted that some items were confusing and some points inadequately covered.

A Vocabulary Test

Directions to the pupil.

Underline any word in the left column which you do not know how to pronounce.

Choose a phrase from the column on the right which tells what the word means. Place the number of that phrase in the parenthesis before the word. Some phrases will not be used.

There are three parts to this test. The directions are the same for all three parts.

Part One

(10) natural resources
(11) raw materials
(5) domestic commerce
(9) manufactured goods
(8) imports
(7) exports
(3) precipitation
(4) physical map
(6) political map
(1) region

1. a large tract of land rather indefinite in size
2. trade with foreign countries
3. moisture in the form of rain, snow, sleet, and hail
4. a map which indicates land elevation and ocean depth
5. trade between different parts of the same country
6. a map giving boundaries and location of countries, states, and cities
7. goods the United States sells to foreign countries
8. goods the United States buys from foreign countries
9. textiles, furniture, gasoline
10. soil, water power, minerals
11. ore, hides, wool, woodpulp
12. world trade

(continued on the next page)

A Vocabulary Test (continued)

Part Two

(4) horse latitudes

(6) doldrums

(5) temperate belt

(7) calms

(3) cyclones

(2) anticyclones

(1) Great Basin

(9) minerals

(11) products

(8) Adirondacks

1. a natural region which covers most of Nevada
2. areas of high pressure which bring fair weather
3. storm areas in the temperate belt
4. a belt of calms where the air is descending toward the earth
5. a belt where temperatures are not too hot nor too cold
6. the equatorial belt of calms
7. areas with no winds
8. a natural region in New York
9. metals, building stone, clay
10. the windbelt located north and south of the equator
11. materials made from natural resources
12. a manufacturing process

(continued on the next page)

A Vocabulary Test (concluded)

Part Three

(4) fall line	1. the windbelt located north and south of the Equator
(7) surface features	2. daily changes in temperature and rainfall
(1) trade winds	3. light rainfall conditions
(12) energizing climate	4. where the Piedmont Plateau and the Atlantic Coastal Plain meet
(2) weather	5. the average temperature and rainfall conditions
(5) climate	6. changeable rainfall
(9) prevailing westerlies	7. mountains, lowlands, plateaus
(8) monsoons	8. winds influencing the climate of Asia
(6) variable rainfall	9. a windbelt in the temperate zone
(10) natural regions	10. areas like the Great Plains, Columbia Plateau, or Rocky Mountains
	11. the place that receives the most direct rays of the sun
	12. a climate in which the people are active because there are no extreme conditions of heat and cold

A Special Study Guide

Information To Find on a Physical-Political Map

Directions to the pupil.

Mark an x in the parentheses beside the items that are like those you have listed.

A political-physical map

( ) marks the boundaries of states.

( ) marks the boundaries of countries.

( ) names and indicates the locations of states.

( ) names and indicates the location of cities.

( ) names and indicates the location of rivers.

( ) names and indicates the location of oceans.

( ) names and indicates the location of and the size of lakes.

( ) names and indicates the location of and the size of islands.

( ) names and indicates the location of mountain ranges.

( ) indicates the size and status of cities by means of a key.

( ) indicates land elevation and ocean depth by means of a key. (Usually a color key.)

( ) shows the railroad routes.

( ) shows the canal routes.

( ) has a scale to enable you to compute distances.

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( ) indicates land elevation and ocean depth by means of a key. (Usually a color key.)

( ) shows the railroad routes.

( ) shows the canal routes.

( ) has a scale to enable you to compute distances.

A Special Study Guide

Finding Regions on a Map

Directions to the pupil.

Consult this reference: 23:10,16. Decide what is needed to complete the following statements. Write your answers on the lines at the right of the paper.

1. The Atlantic Coastal Plain and the Gulf Coastal Plain are from ___ to ___ feet above sea level. — 1. _____ to _____

2. The Atlantic Coastal Plain is about ___ miles wide at the northern boundary line of North Carolina. — 2. _____

3. The highest mountains of the Appalachian mountains are from ___ to ___ feet high. — 3. _____ to _____

4. The fall line is located between the regions named ___ and ___. This is shown by a change in color from ___ to ___. (See 23:12 for a description.) — 4. _____ and _____ _____ to _____

5. The states in the Great Plains are ___. (List 10 states.) — 5. _____

_____

_____

6. The Great Plains in Nebraska are from ___ to ___ feet high and from ___ to ___ feet high. — 6. _____ to _____ _____ to _____

7. The ___ River flows southward through the Central Lowland. — 7. _____

8. The ___ is a tributary of the Mississippi River and enters it from the east near the center of its course. — 8. _____

(continued on the next page)

Finding Regions on a Map (concluded)

9. The Rocky Mountains in their highest parts are over ___ feet high. 9. _____

10. The Sierra Nevada Mountains are in the state of ___. 10. _____

11. The Columbia Plateau is mostly in eastern ___, but it also extends northward into ___ and southeastward into ___. 11. _____

12. The Valley of California is located between the ___ Mountains and the Coastal Ranges. This valley is from ___ to ___ feet above sea level. 12. _____ to _____

A Special Study Guide

Some Things to Know About Graphs

Directions to the pupil.

Place an x in the parenthesis if the item corresponds with one you have listed. Study this list carefully. When you are ready ask for the test on graphs.

( ) A graph is a diagram or picture that represents facts in such a way as to help us understand the facts more easily than we could understand them in tables or descriptions.

( ) A graph tells a story. When we read a graph we make sentences which tell facts.

( ) A graph must have a title which tells what the graph is about.

( ) A graph is drawn according to a fixed plan. That plan is shown by the scale.

( ) In a picture graph, the units, or pictures, which are used to represent facts must be uniform in size, shape, and design.

( ) Graphs are made from tables of figures. The number of pictures, the length of the bars, or the length of the lines must agree with these figures.

( ) A graph does not necessarily give as exact information as does a table of figures. A graph gives approximate information.

( ) Comparisons can easily be made from graphs.

( ) The different parts of the graph - the title, scale, bars, lines, etc. are arranged in an orderly way.

( ) The information on the graph is neatly lettered, not written.

( ) A good place for the title of a graph is at the top in the center, or at the bottom in the center.

A Progress Test

A Test on Graphs

Directions to the pupils.

From the list below, choose a correct word to fill the blanks in each of the exercises. The words on the list are to be used only once.

1. A graph is a _____ or _____.

2. A graph helps us to understand _____ more clearly than if they were in tables of figures or described in the reading.

3. A graph has a _____ which tells what the graph is about.

4. A graph is drawn to a plan which is shown by the _____.

5. The pictures which are used to represent the facts in a picture graph must be _____ in size, shape, and design.

6. Graphs are made from tables of figures. The number of pictures, the length of the bars, or the lines, must agree with the _____ they represent.

7. A graph does not necessarily give us _____ information. A graph gives _____ information.

8. General _____ can be made from a graph.

9. When we read a graph we make _____ which tell facts.

10. The different parts of a graph - the scale, the title, and other information on a graph are neatly _____ and not _____.

11. The title of a graph is usually _____ _____ or _____ the graph.

facts	diagram	picture	title
scale	figures	exact	uniform
approximate	sentences	comparisons	orderly
centered	written	lettered	above
below		comparisons	

A Progress Test

A Test on Graphs

Directions to the pupils.

From the list below, choose a correct word to fill the blanks in each of the exercises. The words on the list are to be used only once.

1. A graph is a _____ or _____.

2. A graph helps us to understand _____ more clearly than if they were in tables of figures or described in the reading.

3. A graph has a _____ which tells what the graph is about.

4. A graph is drawn to a plan which is shown by the _____.

5. The pictures which are used to represent the facts in a picture graph must be _____ in size, shape, and design.

6. Graphs are made from tables of figures. The number of pictures, the length of the bars, or the lines, must agree with the _____ they represent.

7. A graph does not necessarily give us _____ information. A graph gives _____ information.

8. General _____ can be made from a graph.

9. When we read a graph we make _____ which tell facts.

10. The different parts of a graph - the scale, the title, and other information on a graph are nearly _____ and not _____.

11. The title of a graph is usually _____ _____ or _____ the graph.

facts	diagram	picture	title
scale	figures	exact	uniform
apparatus	sentences	comparisons	orderly
centered	written	lettered	above
below		comparisons	

A Special Study Guide

Reading Graphs

Directions to the pupil.

Fill the blanks in the following statements with one of these phrases:

one half one sixth two thirds one third
one fifth all

Consult this reference: 23:4-6, Figures 2-13. When you have completed these exercises, you should have some facts which show why the United States is considered a rich country.

1. The United States produces a little less than _____ of the world's petroleum.

2. The United States produces more than _____ of the world's corn.

3. The United States produces about _____ of the world's cotton.

4. The United States produces about _____ of the world's tobacco.

5. The United States produces a little less than _____ of the world's coal.

6. The United States raises about _____ of the world's hogs.

7. The United States produces about _____ of the world's iron.

8. The United States produces about _____ of the world's copper.

9. The people of the United States consume _____ of the world's sugar.

10. The people of the United States consume _____ of the world's coffee.

(continued on the next page)

Reading Graphs (concluded)

11. The United States uses nearly _____ of the world's natural rubber.

12. The United States uses nearly _____ of the world's tin.

These graphs show that the United States must import what four products?

_____ _____

_____ _____

A Special Study Guide

Directions for Clipping Magazine Articles

to Be Used for Making Booklets

Before clipping the article, list the following information on a separate sheet of paper. Keep this information for the card file.

1. The author of the article.
2. The title of the article.
3. The source of the article.
   a. Name of the magazine.
   b. Date of the issue.
      (1) The month and the year, or
      (2) The month, day, and year, if a weekly publication.
   c. Number of the volume.
   d. Page on which the article begins. (Be sure to find all the pages.)

(continued on the next page)

Directions for Clipping Magazine Articles (concluded)

Clip the article by removing the entire page of the magazine. Get as closely as possible to the binding. A knife is better than scissors for this kind of clipping.

Arrange the pages in the right order and fasten them together with a paper clip. It may be necessary to fold the article so that the pages will not be torn before a booklet is made. Fold the pages in half horizontally. Place the article in a manila folder or envelope for safe-keeping.

A Special Study Guide

Directions for Making Booklets

1. Not all articles will be suitable for booklets. Booklets may be made if -

   a. The article gives valuable supplementary information. (Your teacher will decide this for you.)

   b. The article is printed on one side of the page only. (If two pupils have the same article, they may work together to make one booklet.)

   c. The pictures are not too large to fit a 9 by 12 inch sheet of construction paper. (Sometimes a picture can be cut down for this size without destroying its value. Your teacher will decide this for you.)

   d. Articles which cannot be made into booklets may be filed in a manila folder.

2. Study the arrangement of articles and pictures in several booklets in the classroom file.

(continued on the next page)

Directions for Making Booklets (continued)

a. Notice the information on the cover and how it is arranged.

b. Notice how illustrations are arranged on the pages.

c. Notice how the reading matter is cut to fit the page and arranged so that it can be read easily.

d. Notice that a left margin of about 1½ inches is usually necessary so that the booklet may be fastened together.

e. Notice that a well-balanced page is obtained by following these rules about the margins:

(1) The bottom margin is wider than the top.

(2) The top and side margins may be the same width, or

(3) Side margins may be equal and wider than either the top or bottom margins.

3. Plan to cut up your article so that it will fit the 9 by 12 inch construction paper. Have your plan approved by your teacher.

a. Trim away magazine margins.

b. Cut out illustrations, leaving any explanatory remarks attached to the picture.

c. If possible, cut out the title, author's name, and the source in rectangular strips to be used on the cover.

(continued on the next page)

(continued on the next page)

Directions for Making Booklets (concluded)

d. Cut the article into sections to fit the 9 by 12 inch construction paper. It is best to arrange these sections on the construction paper as they are to be pasted and number the sheets. Otherwise you may get the sections out of order.

4. Paste all over the back of each section and illustration and mount them on the construction paper.

5. Place these sheets between old geography books to dry.

6. When the pages are dry, fasten them together with brass paper fasteners or staples. Staples cannot be used if the booklet is more than four pages thick.

The Mastery Test

The construction of the test.-- This test was constructed to be as valid, reliable, and diagnostic as the experience of the writer permitted. The items were made valid and diagnostic by basing them on each point of the delimitation of the unit. Thus items 1, 2, 3, 4, and 5 were aimed at point one of the delimitation, while items 6 through 25 concern point two, 26 through 48, point three, 49 through 61, point four, 62 through 70 point 5, and 71 through 78, point six. A few of the test items were included to test the knowledge of basic geography skills. Item 78 is of this kind.

Directions to the pupil.-- Read each test item carefully. Choose the ending which makes the best statement. Write the letter of that ending in the parenthesis at the right of the test item.

(continued on the next page)

Directions for Making Booklets (continued)

4. Paste all over the back of each section and lift/section and move them on the construction paper.

5. Place these sheets between old geography books to dry.

6. When the pages are dry, fasten them together with brass paper fasteners or staples. Stapler cannot be used if the booklet is more than four pages thick.

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The construction of the test.-- This test was constructed to be as valid, reliable, and diagnostic as the experience of the writer permitted. The items were made valid and diagnostic by basing them on each point of the definitization of the unit. Thus items 1, 2, 3, 4, and 5 were aimed at point one of the definitization, while items 6 through 25 concern point two, 26 through 48, point three, 49 through 67, point four, 68 through 73 point 5, and 74 through 78, point six. A few of the best items were included to test the knowledge of basic geography skills. Item 78 is of this kind.

Directions to the pupil.-- Read each test item carefully. Choose the ending which makes the best statement. Write the letter of that ending in the parenthesis at the right of the test item.

(continued on the next page)

The Mastery Test (continued)

Example: Boston is the capital of (c)

a. Missouri
b. Idaho
c. Massachusetts
d. Minnesota

---

1. A country which is larger than the United States is (b)
   a. France
   b. The Soviet Union
   c. Germany
   d. Argentina

2. Another country which is larger than the United States is (a)
   a. Brazil
   b. Egypt
   c. India
   d. Spain

3. The continent which is nearly as large as the United States is (d)
   a. Europe
   b. Asia
   c. Africa
   d. Australia

4. The United States is nearly as large as the continent of (b)
   a. Asia
   b. Europe
   c. Australia
   d. Africa

5. The part of the world's total land area which is included in the United States is (d)
   a. one half
   b. one sixteenth
   c. two fifths
   d. one twentieth

6. The natural surface features of a country are indicated on a (a)
   a. physical map
   b. political map
   c. weather map
   d. outline map

(continued on the next page)

The Mastery Test (continued)

7. The natural regions help make the United States wealthy by (a)

   a. giving it different natural resources
   b. increasing its population
   c. improving its transportation
   d. increasing its imports

8. One of the four major natural regions into which the United States is divided is called (d)

   a. the St. Lawrence River Valley
   b. the Western Plains
   c. the Great Lakes Lowland
   d. the Appalachian Highlands

9. The eastern and southern coastal regions of the United States are regions of (b)

   a. plateaus
   b. lowlands
   c. mountains
   d. valleys

10. The Piedmont Plateau is located between (b)

   a. the Atlantic Coast and New England
   b. the Appalachian Mountains and the Atlantic Coastal Plain
   c. the Appalachian Mountains and the Central Lowland
   d. the Atlantic Coastal Plain and the Gulf Coastal Plain

11. A major mountain region in the eastern part of the United States is known as (d)

   a. the Rocky Mountains
   b. the Laurentian Uplands
   c. the Ozark Plateau
   d. the Appalachian Highlands

12. The United States has one of the greatest grazing regions in the world. This area is commonly called the (c)

   a. Great Basin
   b. Laurentian Upland
   c. Great Plains
   d. Ozark Plateau

(continued on the next page)

The Mastery Test (continued)

7. The natural regions help make the United States (a)
   mainly by

   a. giving it different natural resources
   b. increasing its population
   c. improving its transportation
   d. increasing its imports

8. One of the four major natural regions into which (a)
   the United States is divided is called

   a. the St. Lawrence River Valley
   b. the Eastern Plains
   c. the Great Basin Lowland
   d. the Appalachian Highlands

9. The eastern and southern coastal regions of the (b)
   United States are regions of

   a. plateaus
   b. lowlands
   c. mountains
   d. valleys

10. The Piedmont Plateau is located between (b)

    a. the Atlantic Ocean and New England
    b. the Appalachian mountains and the Atlantic
       Coastal Plain
    c. the Appalachian mountains and the Central
       Lowland
    d. the Atlantic Coastal Plain and the Gulf
       Coastal Plain

11. A major coastal region in the eastern part of (d)
    the United States is known as

    a. the Rocky Mountains
    b. the Laurentian Uplands
    c. the Ozark Plateau
    d. the Appalachian
       Highlands

12. The United States has one of the greatest grazing (c)
    regions in the world. This area is commonly
    called the

    a. Great Basin
    b. Laurentian Upland
    c. Great Plains
    d. Ozark Plateau

(continued on the next page)

The Mastery Test (continued)

13. The eastern half of the interior plains is called the (c)

a. Great Plains
b. Gulf Plains
c. Central Lowland
d. Atlantic Coastal Plain

14. The highest and most rugged land in the United States is found in the (b)

a. Appalachians
b. Rocky Mountains
c. Great Basin
d. Columbia Plateau

15. The Great Basin covers most of (a)

a. Nevada b. Idaho c. Montana d. Colorado

16. The Columbia Plateau is found in (d)

a. California
b. Montana
c. Missouri
d. Oregon

17. A major mountain region in western United States is known as the (a)

a. Rocky Mountains
b. Laurentian Upland
c. Ozark Plateau
d. Appalachian Highland

18. The Laurentian Upland includes parts of (a)

a. Wisconsin and Minnesota
b. Missouri and Arkansas
c. California and Oregon
d. Arizona and New Mexico

19. A highland area located in the southern part of the Central Lowland is known as the (a)

a. Ozark Plateau
b. Laurentian Upland
c. Colorado Plateau
d. Columbia Plateau

20. You would expect to find roads following level routes in nearly all parts of (c)

a. New Mexico b. Minnesota c. Delaware d. Utah

(continued on the next page)

The Mastery Test (continued)

21. Manufacturing cities have grown up along the eastern edge of the Piedmont Plateau because of the (c)

a. scenic beauty
b. fertile farm lands
c. power resources
d. favorable climate

22. Because of the natural surface features, you might expect to find few good farming areas in (c)

a. Iowa
b. Kansas
c. Wyoming
d. Delaware

23. The fertile level lands make cereal crops an important product of the (a)

a. Central Lowland
b. Great Basin
c. Laurentian Upland
d. Appalachian Plateau

24. Because of its natural surface features, you would expect mining to be an important industry in (b)

a. Delaware
b. New Mexico
c. Florida
d. Louisiana

25. Because of its rugged surface, few railroads have been built in (a)

a. Nevada b. Illinois c. Ohio d. Louisiana

26. The wealth of a nation depends chiefly on (a)

a. the abundance and variety of its natural resources
b. the gold and silver supply
c. the money its people have in banks
d. an energizing climate

27. The United States has (c)

a. few natural resources in comparison with other countries

b. an abundance of all kinds of natural resources
c. an abundance of most kinds of natural resources
d. a scanty supply of natural resources

(continued on the next page)

The Mastery Test (continued)

28. The term natural resources applies to (c)

a. leather b. automobiles c. forests d. factories

29. Products such as corn, cotton, wool, and hides are called (a)

a. raw materials
b. minerals
c. manufactured goods
d. natural resources

30. Products such as gasoline, shoes, machinery, and textiles are called (c)

a. raw materials
b. minerals
c. manufactured goods
d. natural resources

31. A raw material supplied in abundance by the farm lands in the Gulf Coastal Plain is (d)

a. flax b. wool c. wheat d. cotton

32. The United States has (b)

a. limited areas of good farming lands
b. extensive areas of fertile soils
c. extensive farm lands only in the West
d. no great farming regions

33. In the United States the farmers can grow (c)

a. a few kinds of crops
b. a wide variety of crops in limited quantities
c. an abundance and variety of crops
d. all the farm crops needed by the American people.

34. Coastal and inland waters of the United States have added greatly to the abundance and variety of our (b)

a. naval stores
b. food products
c. textiles
d. forest reserves

35. The Grand Banks is a place for (c)

a. mining
b. trading
c. fishing
d. lumbering

(continued on the next page)

Boston University
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Library

The Mastery Test (continued)

36. Compared with other countries the United States has (c)

a. few mineral resources
b. rich deposits of all kinds of minerals
c. rich deposits of most of the important minerals
d. scanty supplies of the most important minerals

37. In the Laurentian Upland area the United States has one of the world's richest deposits of (c)

a. tin b. nickel c. iron d. platinum

38. Other metals found in great abundance in the United States are (d)

a. tin, lead, and zinc c. gold, silver, and tin
b. tin, iron, and copper d. copper, lead, and zinc

39. In the Appalachian Highlands there are large deposits of (b)

a. gold b. coal c. zinc d. copper

40. The forest resources of the United States (b)

a. are ample enough to provide the products the American people demand

b. have been so wasted they are no longer adequate
c. are greater than any other country of the world
d. are entirely lacking

41. The part of the total land area of the United States which is in forest land is (d)

a. one third c. three fourths
b. one tenth d. one fifth

42. Lumbering is an important occupation in the (d)

a. Central Lowland c. Great Basin
b. Great Plains d. Appalachian Highlands

(continued on the next page)

The Mastery Test (continued)

43. The largest and most heavily forested regions are located in the (c)

a. South
b. Northeast
c. Northwest
d. Great Plains

44. Sources of power in the United States are (b)

a. limited
b. numerous
c. lacking
d. poorly developed

45. At present, the most important and widely used source of power in the United States is (a)

a. coal b. petroleum c. water d. wind

46. Because of its extensive resources, the United States supplies about two thirds of the world's (c)

a. silver b. copper c. petroleum d. tin

47. The great coal and iron resources of the United States have given it an advantage in the manufacture of (c)

a. cotton textiles
b. lumber
c. machinery
d. meat products

48. A factor that contributes to the high standard of living in the United States is (b)

a. land elevation
b. a favorable climate
c. a suitable latitude
d. a dense population

49. A word which best describes a climate which is neither too hot, nor too cold, and is stimulating to the people is (c)

a. humid b. enervating c. energizing d. marine

50. United States has a favorable climate because it is located in the (c)

a. western hemisphere
b. torrid zone
c. north temperate zone
d. doldrums

(continued on the next page)

Mastery Test (continued)

51. A climate gives people energy for work when it has (c)

a. abundant rainfall
b. warm temperatures
c. seasonal changes
d. moderate rainfall

52. The word which best describes the rainfall conditions of the United States is (b)

a. moderate
b. variable
c. anti-cyclonic
d. monsoon

53. The heaviest rainfall area of the United States is in the (a)

a. northeast
b. southeast
c. east
d. central

54. In southwestern United States the rainfall is (c)

a. abundant
b. heavy
c. very light
d. moderate

55. In the Great Plains the rainfall is (b)

a. sufficient for growing crops
b. sufficient for growing grass
c. so light that it is almost a desert
d. heavy enough to be well forested

56. In most of the eastern part of the United States the rainfall is sufficient for (b)

a. dry farming
b. a variety of crops
c. tropical forests
d. redwood forests

57. If you planned to have a farm in southern California, your biggest problem might be to find enough (b)

a. fertile soil
b. water
c. workers
d. suitable crops

(continued on the next page)

Mastery Test (continued)

81. A climate gives people energy for work when it (a)
has

a. Abundant rainfall c. seasonal changes
b. warm temperatures d. moderate rainfall

82. The word which best describes the rainfall con- (b)
ditions of the United States is

a. moderate c. anti-cyclonic
b. variable d. monsoon

83. The heaviest rainfall area of the United States (a)
is in the

a. northeast c. east
b. southeast d. central

84. In southwestern United States the rainfall is (c)

a. abundant c. very light
b. heavy d. moderate

85. In the driest fields the rainfall is (b)

a. sufficient for growing crops
b. sufficient for growing grass
c. so light that it is almost a desert
d. heavy enough to be well forested

86. In most of the eastern part of the United States (b)
the rainfall is sufficient for

a. dry farming c. tropical forests
b. a variety of crops d. redwood forests

87. If you planned to have a farm in southern (b)
California, your biggest problem might be to
find enough

a. fertile soil c. workers
b. water d. suitable crops

(continued on the next page)

The Mastery Test (continued)

58. The state of Washington has fine forests because of its (b)

a. high mountains
b. heavy rainfall
c. cool temperatures
d. westerly winds

59. Most of the United States lies in the belt of the (b)

a. northeast trades
b. prevailing westerlies
c. doldrums
d. horse latitudes

60. The abundant rainfall in eastern United States is caused by (d)

a. hurricanes
b. monsoons
c. tornadoes
d. cyclonic storms

61. Because of differences in temperature conditions, rainfall, and growing seasons, the United States can produce a variety of (a)

a. crops
b. machines
c. natural resources
d. textiles

62. United States has been helped to become a leading nation by its people who are best described as (c)

a. good humored and intelligent
b. ambitious and dependable
c. resourceful and energetic
d. honest and thrifty

63. To people all over the world the United States is known as the land of (b)

a. the rising sun
b. opportunity
c. eternal happiness
d. midnight sun

64. The United States could not carry on its great volume of domestic commerce if it did not have a highly developed system of (c)

a. agriculture
b. reforestation
c. transportation
d. conservation

(continued on the next page)

The Mastery Test (continued)

65. People were willing to leave their native countries and come to the United States to live chiefly because (d)

a. their own country was old
b. they had no natural resources
c. their language was too difficult
d. their country was overpopulated and it was too difficult for them to make a good living

66. The immigrant population of the United States has been eager to develop its natural resources in order to (a)

a. improve its standards of living
b. provide for their native lands
c. enter into the world trade
d. make this country a great agricultural nation

67. United States has been able to advance rapidly in its industrial development chiefly because of its (d)

a. immigrant labor
b. water power resources
c. coal reserves
d. machinery of all kinds

68. The United States has more miles of improved highways and railroads than (b)

a. most countries
b. any other country
c. New World countries
d. all countries except The Soviet Union

69. The United States has more vehicles for hauling its goods than (b)

a. most countries
b. any other country
c. New World countries
d. all countries except Canada

70. A product which might be considered typical of American people is the (b)

a. plow
b. washing machine
c. camera
d. watch

(continued on the next page)

The Mastery Test (concluded)

71. Domestic commerce is well developed in the United States because (c)

a. the people are friendly
b. only one language is spoken
c. each region has different products
d. the government is democratic

72. The different parts of the United States (c)

a. trade only with each other for the goods they need
b. depend entirely on foreign trade to supply them with the goods they lack
c. depend on both domestic and foreign trade to get the goods they need
d. are self-sufficent regions

73. Nations trade with one another mainly because (b)

a. they want to keep friendly
b. they have different natural resources
c. people are curious and wish to see other lands
d. they want all the gold to come into their country

74. United States leads the world in the production of(a)

a. cotton b. rice c. coffee d. tea

75. United States also leads the world in the production of (a)

a. corn b. sugar c. rice d. potatoes

76. United States is dependent on other countries for (c)

a. silver b. lead c. natural rubber d. petroleum

77. United States is also dependent on other countries for (c)

a. coal b. iron c. tin d. zinc

78. On the weather map the center of a cyclone is indicated by (d)

a. an isobar
b. an arrow
c. the word "high"
d. the word "low"

List of Books and Materials for Pupils' Use

1. Aitchison, Alison E. and Marguerite Uttley, North America by Plane and Train, Bobbs-Merrill Company, New York, 1937. (one copy) (*6)

2. Allen, Nellie B., Our Cereal Grains, Ginn and Company, Boston, 1928. (three copies) (*2)

3. Atwood, Walace W. and Helen G. Thomas, The Growth of Nations, Ginn and Company, Boston, 1943. (one copy) (*3)

4. Atwood, Wallace W., The United States in the Western World, Ginn and Company, Boston, 1944. (one copy) (*3)

5. _____, The World at Work, Ginn and Company, Boston, 1931. (one copy) (*3)

6. Barry, Ruth, The Wise Consumer, Row,Peterson and Company, New York, 1942. (one copy) (*4)

7. Branom, Frederick K. and Helen M. Ganey, Our World, Social Geography Series, Book IV, William H. Sadlier, Inc., New York, 1939. (six copies) (*2 and *3)

8. _____, Western Hemisphere, Social Geography Series, Book II, William H. Sadlier, Inc., New York, 1939. (one copy) (*3)

9. Brigham, Albert Perry and Charles T. McFarlane, How the World Lives and Works, American Book Company, Boston, 1944. (six copies) (*2 and *3)

10. Carpenter, Frank George, How the World is Fed, American Book Company, Boston, 1907. (one copy) (*5)

11. Carpenter, Harry A. and George C. Wood, Our Environment; How We Adapt Ourselves to It, Allyn and Bacon, Boston, 1945. (two copies) (*2)

*1. One copy purchased by the writer.
*2. Special purchase by the school department.
*3. Sample copy from the superintendent's office.
*4. From the classroom bookshelf.
*5. Loaned by the Public Library.
*6. Sample copy sent by publisher to writer.

#1. One copy purchased by the writer.
#2. Special purchase by the school department.
#3. Sample copy from the superintendent's office.
#4. From the classroom teacher.
#5. Loaned by the Public Library.
#6. Sample copy sent by publisher to writer.

List of Books and Materials for Pupils' Use (continued)

12. Casner, Mabel and Roderick Peattie, Exploring Geography, Harcourt, Brace and Company, 1937. (six copies) (*2 and *4)

13. Cumley, Russell W., America's Oil, Row, Peterson and Company, New York, 1942. (three copies) (*4)

14. Dunn, Marshall and Lloyd N. Morrisett, Machines for America, World Book Company, New York, 1943. (one copy) (*4)

15. _____, Power for America, World Book Company, New York, 1943. (one copy) (*4)

16. Fisher, Elizabeth F., Resources and Industries of the United States, Ginn and Company, Boston, 1928. (six copies) (*2)

17. Gaer, Joseph, Everybody's Weather, J.B. Lippincott Company, New York, 1944. (one copy) (*5)

18. Glover, Katherine, Our American Forests; Yesterday, Today, and Tomorrow, Row, Peterson, and Company, New York, 1941. (three copies) (*4)

19. _____, America's Minerals, Row, Peterson and Company, New York, 1942. (three copies) (*4)

20. Hanna, Paul R. and Edward A. Krug, Marketing the Things We Use, Scott, Foresman and Company, New York, 1943. (two copies) (*3 and *4)

21. Hanna, Paul R., I. James Quillen, and Paul B. Sears, Making the Goods We Need, Scott, Foresman and Company, New York, 1943. (two copies) (*3 and *4)

22. McConnell, William R., Geography of the Americas, Rand McNally and Company, New York, 1945. (one copy) (*3)

23. _____, The United States in the Modern World, Rand McNally and Company, New York, 1939. (textbook of the course)

24. Martin, Maud C. and Clyde E. Cooper, The United States at Work, D. C. Heath and Company, Boston, 1938. (one copy) (*3)

List of Books and Materials for Pupils' Use (continued)

25. Packard, Leonard O. and Charles P. Sinnott, Nations As Neighbors, The Macmillan Company, New York, 1925. (one copy) (*3)

26. Parker, Bertha M. Ask the Weather Man, Row, Peterson and Company, New York, 1941. (one copy) (*4)

27. Perry, Josephine, The Coal Industry, Longmans, Green and Company, New York, 1944. (one copy) (*5)

28. _____, The Cotton Industry, Longmans, Green and Company, New York, 1943. (one copy) (*5)

29. _____, Fish Production, Longmans, Green and Company, New York, 1940. (one copy)(*5)

30. _____, The Steel Industry, Longmans, Green and Company, New York, 1943. (one copy) (*5)

31. Perry, Josephine and Celeste Slauson, Forestry and Lumbering, Longmans, Green and Company, New York, 1945. (one copy) (*5)

32. _____, Milk Production, Longmans, Green and Company, New York, 1938. (one copy) (*5)

33. Pitkin, Walter B. and Harold F. Hughes, Seeing Our Country, Book I, The Macmillan Company, New York, 1939. (four copies) (*2 and *6)

34. _____, Seeing Our Country, Book II, The Macmillan Company, New York, 1939. (four copies) (*2 and *6)

35. Rugg, Harold, Our Country and Our People, Ginn and Company, Boston, 1938. (six copies) (*1 and *2)

36. Smith, J. Russell, Our Industrial World, The John Winston Company, Philadelphia, 1939. (eight copies) (*4)

37. Strack, Lilian Holmes, Aluminum; A Magic Mineral, Harper and Brothers, New York, 1941. (one copy) (*5)

38. _____, Asbestos; A Magic Mineral, Harper and Brothers, New York, 1941. (one copy) (*5)

List of Books and Materials for Pupils' Use (continued)

40. Strack, Lilian Holmes, Magnesium; A Magic Mineral, Harper and Brothers, New York, 1943. (one copy) (*5)

41. _____, Nickel; A Magic Mineral, Harper and Brothers, New York, 1941 (one copy) (*5)

42. _____, Radium; A Magic Mineral, Harper and Brothers, New York, 1941. (one copy) (*5)

43. Stull, De Forest and Roy W. Hatch, Our World Today, Allyn and Bacon, Boston, 1932 (one copy) (*4)

44. _____, Our World Today; Asia, Latin America, United States, Allyn and Bacon, Boston, 1941. (two copies) (*3 and *6)

45. _____, Our World Today; Europe and Europe Overseas, Allyn and Bacon, Boston, 1941. (two copies) (*3 and *6)

46. Thurston, E.L. and E.H. Faigle, World Geography, Iroquois Publishing Company, Inc.,1944. (two copies) (*3)

47. Whitbeck, Ray Hughes, Industrial Geography; Production Manufacture, Commerce, American Book Company, Boston, 1934. (two copies) (*2)

48. Waugh, F.V., Trade and Commerce, Row, Peterson and Company, New York, 1942. (one copy) (*4)

Free Commercial Publications

American Forest Products Industries, Inc., 1319 18th Street, N.W., Washington D.C.

Paul Bunyan's Quiz Questions and answers about the forests.

New Magic in Wood 32 pages.

Progress in American Forest Management 32 pages.

Trees for Tomorrow 25 pages.

(continued on the next page)

Free Commercial Publications (continued)

American Petroleum Institute, Department of Information, 50 West 50th Street, New York

The Burning Rivers The story of oil in America before the Drake Well in 1859. 4 pages.

Petroleum's Magic Towers An address by William R. Boyd, Jr. 32 pages.

Petroleum Horizons An address by Ralph K. Davies.

Petroleum Marches On An address by William R. Boyd, Jr. 16 pages.

Petroleum Products, Petroleum - Drilling and Production and Petroleum - Transportation, Storage, and Marketing. 3 charts.

Spindletop - A Texas Titan The story of the Lucas Well brought in on January 10, 1901, which started the oil development of Texas. 10 pages.

National Coal Association, Southern Building, Washington, D. C.

The Story of Bituminous Coal Just plain educational facts about a great industry. Revised 1941.

Pepperell Manufacturing Company, 160 State Street, Boston 2, Massachusetts.

Our Greatest Industry A story in pictures illustrating how cotton cloth is made. 42 pages.

Standard Oil Company, 30 Rockefeller Plaza, New York 20, New York.

Petroleum in the World 30 pages.

United States Sugar Beet Association, Washington 5, D. C.

The Silver Wedge 63 pages.

The Story of Sugar A Chart.

Report on the Teaching of the Unit

Explanation of the unit to the pupils.-- The teaching of the unit began with an explanation to the pupils of the plan of work for the three-week period the unit was to cover. The pupils were told that they were taking part in an experiment to find out if seventh-grade pupils would like to study geography in a new way, and that their teacher would like their opinions and suggestions as they worked. The teacher's explanation concerned these questions:

1. What books are to be used?
2. Where are these books?
3. How are the books to be used?

In answer to the first question, a copy of the list of books on pages 58 through 61 was given to each pupil. The pupil's copy listed the books in the same order, but gave only the author's name and title of the book. The pupils were informed that they might use all the books on the list to study their geography lessons and that certain books, marked with an asterisk on their list, might be read for pleasure as well as for reference and study.

The pupils were then shown that these books were to be found in the classroom bookcase in alphabetical order by author's name. One book from each of those listed was shown, so that the pupils might have an idea what each book looked like. Several pupils then demonstrated how to find a partic-

ular book by going to the bookcase and selecting the one named by the teacher. The pupils' attention was also called to the fact that number 23 on the list referred to the textbook that each pupil had at his own desk.

Before attempting to tell the pupils how to use the books, the teacher passed out the first page of the study guide. Pupils were then asked to read the first question and notice the numbers which appeared in the parentheses after the question. It was then explained that these numbers referred to the books they needed to use to answer the question correctly. The number before the colon meant the book of the same number on the list of books they had already received, and the number after the colon referred to the pages of the book where they could find the information they wanted. To make sure that everyone had the correct idea as to the procedure they would be expected to follow, several references were read and explained by the pupils. The pupils then demonstrated how they would get a specific book and find the reference they wanted.

Since the books in the classroom library were to be shared, book card pockets had been pasted into them and cards for keeping a record of books loaned to pupils were provided. Library rules, posted on the bulletin board,were called to the pupils' attention and three pupils were allowed to volunteer to be class librarians during the time the unit

was to be studied.

Since some of the references referred to booklets prepared from articles from current magazines, or to the Reader's Digest, and The National Geographic, the pupils were shown where to find this material. A card system for keeping a record of these materials as they were borrowed by the pupils was not thought to be practical by the writer. Instead, sign-up sheets, one for the booklets from the file, one for the Reader's Digest, and a third for The National Geographic were posted on the bulletin board and the pupils were asked to write the name of the booklet, or date of the issue, the day they borrowed the article, and their own name on these sheets.

The list of optional activities was also posted on the bulletin board. As the teacher called the attention of the pupils to this material, she explained that these activities might be interesting to some pupils and if they wished to work on any of the assignments, they might do so by getting permission from the teacher. They were also invited to add to this list of activities.

The remaining sheets of the pupil's study guide were then passed out and the pupils were told that they might choose the order in which they would complete them. It was explained that most of the class periods for the following two weeks could be used as work periods and that the third

week would be reserved for oral discussions, reports, and a final test. The pupils were warned to plan to do some of the work as homework because the time allowed in school was not sufficient to complete all of the work. (The pupils in this school are given homework assignments every night in their major subjects.)

Observations as to pupil progress during the work periods.-- The pupils attacked their work with enthusiasm from the beginning and this interest was maintained during the entire period of study. Two evidences of maladjustment of some pupils to the unit idea appeared after the first two days. As a means of keeping the teacher informed as to what activities the pupils were working on, the pupils stamped a chart each time they completed an activity. This chart listed the names of the pupils in the class vertically and the numbers of the activities horizontally. It was discovered after two periods that many pupils were working too rapidly and too superficially, having indicated on the chart that they had completed more than half of the work in the unit assignment. Books were also being exchanged too frequently, so that some pupils were wasting time and becoming a disturbance to the class.

This undesireable situation was remedied by the teacher's suggestion that each pupil provide himself with a loose-leaf notebook in which to keep the copies of the unit assignment, list of books, and notes on his readings. The

pupils responded one hundred per cent to this suggestion. In taking notes the pupils were asked to rule two columns on the left side of the page. In the first column they wrote the number of the activity they were working on, and in the second column they placed the numbers which indicated the references they were using to find their information. By examining a pupil's notebook, it was then comparatively easy for the teacher to determine how thoroughly the work was being prepared and how much was being accomplished daily.

As the teacher observed the pupils at work, she became aware that this type of organization for teaching gave a greater opportunity to study the personality of the individual pupil. Character traits and study habits that had gone unnoticed were brought into focus. It was therefore possible and necessary to single out individuals who needed special guidance. Some pupils were being too conscientious and trying to read all the references listed. These pupils were encouraged to work a little faster when it was pointed out that some references merely repeated the information of others. On the other hand, the poorest readers were not achieving as much as they should because they read too slowly or too carelessly. Insofar as possible, the writer endeavored to provide easier reading for these pupils, and required pupils with careless reading habits to correct the errors they made through misreading instructions. However, the

organization of the unit and the materials that were available gave the pupils with extremely low reading ability a great handicap.

Some pupils who lacked initiative and resourcefulness and who were evidently habitually dependent on the teacher for constant direction in regard to their work, proved to be bothersome because of their too frequent assertions that they could not find the answers to the questions. The teacher gave these pupils further guidance in (1) locating the right book, (2) locating the right page, and (3) the careful reading of the passage for information rather than the skimming of the material. In some cases pupils were required to read the material aloud and discuss it with the teacher.

The conscientious pupils exhibited this dependence on the teacher by frequently asking the teacher to examine their notes to see if they had obtained enough information, or the right information. They were worried about how much work they should have done each day, also. The irresponsible pupil, on the other hand, wasted his time by partially answering the questions and leaving too much work to be done in the last few days of the period designated for this work. The writer found it necessary to set "dead lines" for certain of the activities. The pupils were allowed to pass in the work before the dead line, but after that date, they were required to do that piece of work before going on to

anything else.

Some of the more irresponsible "mischief makers", who did not comprehend the purposes of their new privileges of moving about the classroom to obtain books and materials as they needed them, made too frequent trips to the library and conversed with their classmates unnecessarily. Other pupils were extremely careless in the use of the books and materials. This was partly due to not having enough copies of the books they needed, which seemed to encourage rushing to get these books first and snatching them away from classmates. Since these pupils were accustomed to doing the same lessons in the same way, they were at first inclined to choose the same activity as their neighbors, and this was apt to cause a greater demand for particular books than was necessary. The writer tried to encourage different choices of activities in order to get a better distribution of the books during the class period. Some of the carelessness was due to the rush from the classroom when the period ended. Consequently the pupils were required to stop work at five minutes before the bell rang for the period to end, so that they had time enough to put the supplementary materials away before leaving the classroom.

In the matter of homework the writer observed that only a few pupils were burdening themselves with daily assignments. Since most of the pupils worked conscientiously during the

class periods, and during study periods, and seemed to be achieving good results, the writer refrained from making the assignments more definite, except in the case of one or two pupils who did not take the responsibility of completing any assignment on their own initiative.

The vocabulary test.-- The vocabulary test was given as a pre-test during the second class period and as part of the final test during the final class period. The pupils found this test difficult. Although the test contains terms that the pupils should have met in the study of geography in previous years, they did not seem to be familiar with them. They found the form of the test new. Some items were ambiguous. As a basis for revision, the writer charted the results of the test each time it was given, listing the vocabulary words vertically, the pupils' names horizontally, and indicating how each item was scored - right, wrong, or omitted.

The vocabulary achievement of the group seems satisfactory. In the first testing the scores ranged from 8 words correct to 25, with a middle score of 15. In the second testing, the range was from 8 to 30 and the middle score was 21. The actual gain is shown more clearly in the table on the next page. The pupil who was lowest in achievement in the vocabulary test had the lowest reading score of the class.

After the study of the unit two-thirds of the pupils

Table 5. Vocabulary Achievement of 33 Pupils Based on the Difference of Two Test Scores*

Gains and Losses in Number of Words Right	Number of Pupils	Gains and Losses in Number of Words Right	Number of Pupils
-3	1	5	2
-2	1	6	5
-1	0	7	7
0	0	8	4
1	3	9	2
2	2	10	1
3	2	11	1
4	1	12	1

* Due to absence, four pupils were not tested twice.

failed on the words products and isobars. Faulty test construction probably caused the failure on the word products, and lack of attention, observation, and disinterest caused the failure on the word isobar. This word was used several times by the teacher in a discussion of the cyclonic storms and weather maps and appeared in the reading. Monsoons, isotherms, and precipitation were also failed on by more than half the class. The test was revised to correct these difficulties.

The special study guides and progress test.-- Insofar as possible, the writer endeavored to make analyses of the work done by the pupils on the special study guides and progress test so that they could be revised. For the exercise, Finding Regions on a Map, pages 38 and 39, the failures were interpreted more satisfactorily after the skills each item

involved were listed.

A Chart of Skills Needed by Pupils to Successfully Complete the Exercise, Finding Regions on a Map.

Number of the Item in the Exercise	Skills Involved
1.	Locating a given area, reading key to elevation, and applying it to a given area.
2.	Reading a map scale and applying it to a particular area.
3.	Same as Number 1.
4.	Finding an area described in the reading and applying key to elevation.
5.	Ability to name states on an outline map.
6.	Same as Number 5, plus reading and interpreting the key to land elevation.
7.	Knowledge of directions on a map. Ability to locate a given river.
8.	Knowledge of directions on a map and meaning of the words tributary and course.
9.	Same as Number 1.
10.	Ability to locate a place when the name is given.
11.	Knowledge of directions on the map. Ability to name the states from an outline map.
12.	Same as Number 1.

Table 6 Distribution of the Scores and the Number of Pupils Failing Each Item of the Exercise, Finding Regions on a Map

Number of the Item	Number of Pupils Failing the Item	Distribution of the Scores	
		Number Right	Number of Pupils
1	6	12	4
2	14	11	6
3	16	10	1
4	19	9	7
5	12	8	8
6	5	7	2
7	0	6	5
8	6	5	3
9	1	4	0
10	1	3	0
11	9	2	1
12	12	1	0
		Total Number of Pupils	37

Item 4 proved to be the most difficult. During a class discussion, it was found that about half of the pupils had attempted to answer this question without previously reading the passage that would have given them the information they needed. The others had read the passage involved and had failed to notice its significance and meaning. Nearly all pupils corrected their mistake without further assistance from the teacher after a page reference was added to this

item. The few who experienced further difficulty were required to read the passage aloud, interpret it orally and then apply the information by using the map.

About one third of the class failed items 3 and 12, showing inexperience in the use of and interpretation of maps. After a brief discussion of the meaning and use of the key of elevation, these pupils were able to correct their errors with no further difficulty. Further evidence o f inexperience in interpreting maps is shown by the number of failures in item 2. After a brief discussion of the map scale and its use these pupils corrected their mistakes. Many pupils showed a lack of knowledge of the names and locations of the states, a further handicap in completing the exercises correctly.

Item 2 was revised by inserting the words "at the northern boundary line" before "of North Carolina". A page reference was added to item 4 and the sentences reworded. In item 12 the word "it" in the second sentence was replaced by "This valley".

A study of test results for the test on graphs, page 41 revealed the necessity for revision. To eliminate the confusion which the pupils experienced when they took the test, it was revised to permit the use of the words listed to complete the exercises only once.

The results of the spelling test in connection with

activity 6 showed that the pupils had paid little attention to this part of the assignment. Therefore the activity was reworded to make it definite that the spelling of these words was part of the activity.

Table 7. Results of the Spelling Test Given as a Partial Check on Activity 6

Distribution of Scores		Words Arranged According to Difficulty	Number of Pupils Failing Each Word
Number Right	Number of Pupils		
12	7	Adirondacks	16
11	6	Appalachian	
10	5	Mountains	13
9	4	Appalachian	
8	2	Plateau	12
7	0	Piedmont	
6	1	Plateau	7
5	3	Ozark Plateau	7
4	2	Coastal Plain	6
		Columbia Plateau	4
		Great Basin	3
		Colorado Plateau	3
Number of		Rocky Mountains	1
Pupils Not		Central Lowlands	1
Tested	7	Great Plains	0

The mastery test.-- A mimeographed copy of the mastery test was given to each pupil. After the directions had been discussed orally, the pupils proceeded with the test with an attitude of deeply concentrated interest. One pupil finished the test in 12 minutes, and , incidentally, obtained the highest score. Another pupil spent thirty-five minutes on the

test. The facts as to the time required to take this test are best shown by the table below. Since four pupils were absent during the test period, data for only thirty-three members of the class is given.

Table 8. Distribution of the Time Required for 33 Pupils to Take the Mastery Test for Unit One

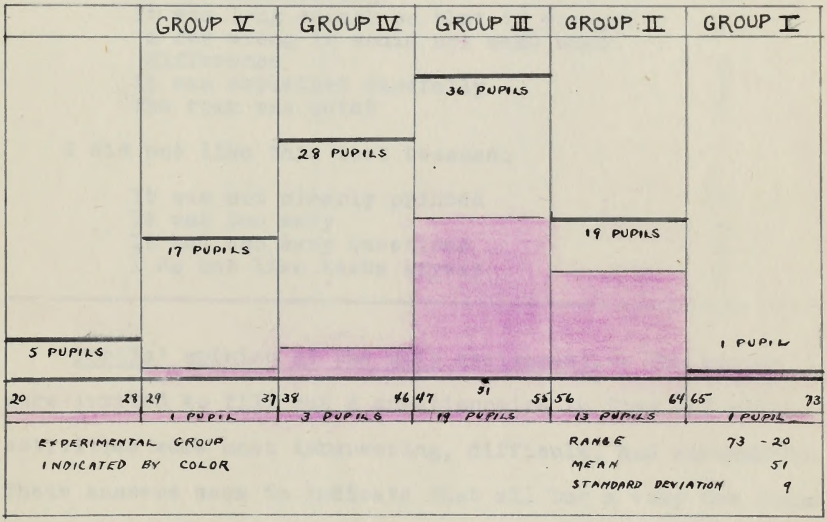
Number of Minutes	Number of Pupils
0 - 15	2
16 - 20	7
21 - 25	15
26 - 30	7
30 - 35	2

The results of the mastery test were charted and analysed. (The beginning and end segments of this chart have been included in the Appendix.) It was found necessary to revise items 12, 13, 23, 25, 34, 37, 38, 45, 46, 50, 51, 57, 60, 68, 69, and 71. These test items taken by the pupils permitted more than one possible correct answer and were therefore confusing. Although items 40, 41, 62, 72, 74, and 78 were also failed on by more than one third of the pupils, they were not revised because it seemed to the writer that failure was due to careless preparation on the part of the pupils of the particular unit activities which would have given them the needed information. Therefore questions in the study guide were revised and new activities added to the unit assignment

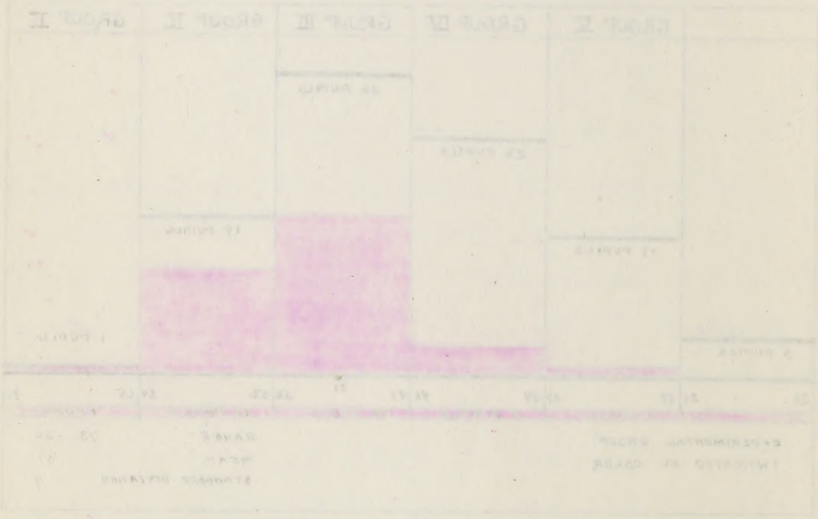
to secure better preparation for these items of the mastery test.

The same mastery test was given to the other two seventh-grade classes which had prepared the same work, but had used the single textbook. The scale below shows the achievement of the experimental group to be much greater than that of the rest of the pupils.

A Relative Growth Scale for 106 Seventh-Grade Pupils Based on Their Scores on the Mastery Test for Unit I



The pupils were invited to pass in comments as to why they did, or did not like the test. Their comments have been summarized in the chart on the next page.



A Summary of the Pupils' Comments About the Mastery Test

Pupils' Comments	Number of Pupils With Same or Nearly Same Idea
I liked this test because:	
There was not much writing	8
There was a choice of four answers	7
It was not too hard	9
It was about the questions we studied	5
It was not too easy	3
It was interesting	3
It was long enough so that if you got a few wrong it would not make much difference	2
It was explained carefully	2
The room was quiet	1
I did not like this test because:	
It was not clearly printed	2
It was too easy	1
It had too many questions	4
I do not like tests anyway	1

Pupils' opinion of the unit assignment.-- The pupils were invited to fill out a questionnaire to find out which activities were most interesting, difficult, and worthwhile. Their answers seem to indicate that all but a very few found the activities in their unit assignment interesting, not too difficult, and worth the time spent on them. This is shown in greater detail in the tables on the next three pages.

A Summary of the Pupils' Comments About the Mandory Test

Pupils' Comments	Number of Pupils Made Same Idea or Nearly Same Idea
I liked this test because:	
There was not much writing	8
There was a choice of four answers	7
It was not too hard	6
It was about the questions we studied	5
It was not too easy	3
It was interesting	3
It was long enough so that if you got a few wrong it would not make much difference	2
It was explained carefully	2
The room was quiet	1
I did not like this test because:	
It was not clearly printed	2
It was too easy	1
It had too many questions	1
I do not like tests anyway	1

Pupils' opinion of the unit assignment.--- The pupils were invited to fill out a questionnaire to find out which activities were most interesting, difficult, and worthwhile. Their answers seem to indicate that all but a very few found the activities in their unit assignment interesting, not too difficult, and worth the time spent on them. This is shown in greater detail in the tables on the next three pages.

Table 9. Pupil Interest in Core Activities as Reported on Questionnaire *

Number of the Activity	Number of Pupils Reporting Activity As Very Interesting	Number of Pupils Reporting Activity As Interesting	Number of Pupils Reporting Activity As Boring, Tiresome
1	17	14	0
2	15	12	4
3	15	13	3
4	13	14	4
5	18	9	4
6	14	14	3
7	16	8	7
8	14	12	5
9	12	16	3
10	16	12	3
11	14	15	2
12	11	15	5
13	16	12	3
14	21	8	2
15	11	18	2
16	13	14	4
17	13	12	6
18	13	12	6
19	11	13	7
20	15	13	3
21	14	12	5
22	12	15	4
23	14	16	1
24	15	10	6
25	17	11	3
26	19	10	2

* 5 pupils failed to return questionnaire and 1 pupil had not answered correctly.

Table 10. Difficulty of Core Activity Items As Reported by Pupils on Questionnaire

Number of the Activity	Number of Pupils Reporting Activity Easy	Number of Pupils Reporting Activity Difficult	Number of Pupils Reporting Activity Very Difficult
1.	31	0	0
2.	20	9	2
3.	22	9	0
4.	25	6	0
5.	16	15	1
6.	23	8	0
7.	19	10	2
8.	14	16	1
9.	22	8	2
10.	18	13	0
11.	20	10	1
12.	18	12	1
13.	20	11	0
14.	15	15	1
15.	23	8	0
16.	19	11	1
17.	17	11	3
18.	18	11	2
19.	16	12	3
20.	18	10	3
21.	15	14	2
22.	14	12	5
23.	20	10	1
24.	16	11	4
25.	13	13	5
26.	16	14	1

Table 10. Difficulty of Core Activity Items As Reported by Pupils on Questionnaire

Number of Activity	Number of Pupils Reporting Activity	Number of Pupils Reporting Very Difficult
1.	31	0
2.	20	2
3.	22	0
4.	26	0
5.	16	1
6.	23	0
7.	19	2
8.	14	1
9.	22	2
10.	18	0
11.	20	1
12.	18	1
13.	20	0
14.	18	1
15.	23	0
16.	19	1
17.	17	3
18.	18	2
19.	16	3
20.	18	3
21.	16	2
22.	14	2
23.	20	1
24.	16	4
25.	13	3
26.	18	1

Table 11. Pupil Attitude As to Whether the Core Activities Were Worthwhile Based on Questionnaire Report

Number of the Activity	Number of Pupils Reporting Activity Worthwhile, Useful Information	Number of Pupils Reporting Activity to Be of Some Value	Number of Pupils Reporting Activity As Time Wasted
1	25	6	0
2	21	9	1
3	15	14	2
4	15	15	2
5	19	9	3
6	20	8	3
7	18	8	5
8	20	7	4
9	20	9	2
10	19	9	3
11	19	11	1
12	18	10	3
13	23	4	4
14	19	10	2
15	17	12	2
16	17	10	4
17	19	7	5
18	20	9	2
19	13	12	6
20	19	10	2
21	14	4	3
22	12	17	2
23	18	8	3
24	20	8	3
25	25	5	1
26	23	7	1

Unit summaries written by the pupils.-- As a means of further evaluating the educative growth of the pupils for the three-weeks period of study, the pupils were asked to write summaries of the information they had gained. This assignment was on the study guide so that the pupils knew what to prepare well in advance. These pupils had not had much previous experience in composition work of more than a paragraph or two. Although many were handicapped by not being able to express their ideas in well-constructed, correctly punctuated sentences, the summaries were excellent from the standpoint of the knowledge they contained and the experience of this group of pupils with this sort of an assignment. The main ideas of the unit delimitation were found on almost every paper. According to the interest, ability, and preparation of each pupil, the minor details were mentioned also. Three samples of the pupils' work may be found in the Appendix.

CHAPTER III

A UNIT ON FARMING IN THE UNITED STATES

The Unit

The United States is a world leader in the agricultural industry. Its extensive farm lands cover a variety of regions with conditions favorable for the growth of certain crops in particular areas. With the aid of scientific methods and farm machinery, the United States farmer can supply most of the food and raw materials needed by this great industrial nation. However, the supply of such materials as rubber, silk, sugar, coffee, spices, and other luxury foods which add to the comfort and pleasure of the American people must come from other countries. Because the United States can produce more of such products as grain, cotton, and tobacco than any other country in the world, these products make up a large part of its export trade.

The Delimitation of the Unit

1. The United States is the greatest farming country in the world.
   a. Certain geographical advantages help to make the United States a leading agricultural nation. Among these are (1) large areas of level or gently rolling

lands, (2) an abundant rainfall in most of the country, (3) a variety of good soils, (4) growing seasons which make possible the production of a great variety of crops, and (5) water to irrigate the dry lands.

b. Other conditions which have helped the United States to become a leading agricultural nation are (1) the use of time-saving, labor-saving farm machinery, (2) the demand of a large urban population for food and raw materials from the farm, (3) a government which is interested in improving farm lands and giving the farmer the necessary scientific information and aid for improving and increasing his farm produce, and (4) the development of modern transportation which has permitted the United States farmer to specialize in the products best suited to the area in which he lives.

2. The leading cereal crops grown in the United States are corn, wheat, oats, barley, rye, and rice. Although these grains can be grown in many states, some regions have more advantages than others for producing them.

a. The Corn Belt, a region extending westward from Ohio through Indiana, Illinois, Missouri, Iowa, northern Kansas, Nebraska, southern South Dakota, and southern Minnesota, has the level land, rich soils, abundant rainfall, long growing season, and the high

summer temperatures needed for growing corn.

b. The Corn Belt produces two thirds of the corn grown in the United States and makes this country lead the world in corn production. The United States produces over one half of the world's corn supply.

c. Most of the corn grown in the Corn Belt is used to feed cattle, hogs, and poultry. Some is made into cornmeal, corn starch, syrup, oil, alcohol, sugar, and artificial rubber.

d. Sweet corn for canning is grown north of the Corn Belt, particularly in the state of Maine, where the shorter growing season prevents the corn from ripening beyond the soft, milky stage needed for canned corn.

e. United States is the second largest wheat producing nation. One sixth of the world's wheat is produced in this country, but The Soviet Union produces more.

f. One half of the United States wheat crop is grown in a wheat belt which extends northward from the state of Texas, through Oklahoma, Kansas, Nebraska, South Dakota, Minnesota, North Dakota, and Montana. The conditions favorable for growing wheat in this area are an abundant rainfall, cool, moist weather during the growing period, dry weather during the harvest, a black humus soil which is very fertile, and level

land which permits the use of machinery for planting and harvesting. More wheat is produced in Kansas than in any other state.

g. An important wheat producing area outside of the wheat belt is the Columbian Plateau in Washington and Oregon. California has important wheat farms. Wheat is also an important crop in the Corn Belt and south of the Corn Belt.

h. Several kinds of wheat are grown in the United States. Winter-wheat, which is planted in the fall and ready for harvest the following June or July, is produced from Texas northward to Kansas. Spring-wheat is produced in the Dakotas, Minnesota, and Montana. This variety is planted in the spring and harvested in the fall. Durum wheat, a variety imported from The Soviet Union, can be grown on the drier farm lands.

i. Oats, barley, and rye make good crops for the United States farmer because they can withstand less favorable growing conditions and be produced with the same farm machinery as other grains. They also provide cheap food for farm animals and can be rotated with other grain crops.

j. Oats are grown chiefly in the Corn Belt, while rye thrives in the states north of the Corn Belt. Cali-

fornia produces the most barley.

k. Rice is an important crop in only four states - Louisiana, Texas, Arkansas, and California.

l. Rice production methods in the United States are different from those of Asia. In the United States the rice is planted and harvested with machinery like the other cereal crops. In China, or Japan, the labor is done by hand.

3. Vegetables and fruits are produced in abundance on farms in all parts of the United States, but special advantages limit the commercial production of these crops to certain areas.

a. Vegetables are grown on truck farms near every large city because there is a good market for this produce.

b. The Atlantic Coastal Plain is the greatest vegetable growing region because of its sandy soils, good transportation facilities, and nearness to the most densely populated sections of the United States.

c. Four regions specialize in the growing of winter vegetables for northern markets. These are (1) the states of Florida and Georgia, (2) the delta of the Rio Grande in Texas, (3) Salt River Valley in Arizona, and (4) the delta of the Sacramento-San Joaquin rivers and the Imperial Valley of California.

d. The potato, our most important vegetable crop, is grown in the states north of the Corn Belt, where a cool, moist climate, light sandy soils, and nearness to large markets are advantageous.

e. Aroostook County, Maine is the most noted potato growing region in the United States.

f. The United States leads the world in the abundance and variety of its fruit production, but the apple, the grape, the orange, and grapefruit are our most important commercially produced fruits.

g. Although the apple can be grown in every state, western New York, the Appalachian Highland region, and the irrigated valleys of Washington have special advantages for commercial production.

h. California, our leading fruit producing state, has a monopoly of the fruit drying industry because of its Mediterranean climate. Raisins, dried peaches, pears, apricots, and prunes are Californian products.

i. United States grows more oranges than any other country. California is the leading state and Florida ranks second.

j. One half of the grapefruit is produced in Florida and the rest in Texas and California.

k. Two areas which specialize in growing grapes are California and the region bordering Lake Erie.

1. Because vegetables and fruit are perishable they have presented special problems in marketing. The refrigerator car, new methods of transportation and preservation have increased the market for these crops and permitted a greater production.

4. United States can produce a part of the sugar it needs from sugar cane and sugar beets.

   a. Sugar cane can be grown in our southern states, but it is an important crop only in the Mississippi delta land of southern Louisiana where the rich soil, long growing season, and heavy rainfall favor its production.

   b. The cane grown in Louisiana is used chiefly for making sugar. The cane grown in other scattered areas of the South is used for making syrup.

   c. Sugar beets are not a popular crop with the American farmer because they require intensive farming methods. Therefore this crop is not raised in many areas which are suited to it. It is an important crop in the irrigated valley farms in the West. Colorado and California are the two most important sugar beet producing states.

   d. Since the people of the United States use one fifth of the world's total sugar supply, it must be imported from Cuba, the Philippine Islands, Puerto Rico, and

the Hawaiin Islands.

5. One half of the world's cotton and one third of the world's tobacco is raised on United States farms.

   a. Cotton needs a growing season of two hundred days, hot summers, and abundant rainfall. Such conditions are found in the region from North Carolina south and west to Texas. This region is known as the Cotton Belt.

   b. Cotton thrives best in a deep, rich, fertile soil. Certain areas like the Black Waxy Prairie of Texas, the Mississippi Valley in Arkansas and Mississippi, and the black belt of Alabama produce more cotton than other areas because they have such fertile soil.

   c. The Cotton Belt is moving westward. The boll weevil, which is more destructive in the hot and wet regions of the southern and eastern sections of the Cotton Belt, has given the northern and weatern sections more importance. The recent successful invention of a cotton picking machine has encouraged the farmers of the irrigated valleys of Arizona and California to turn to cotton.

   d. Cotton, raised chiefly for its fiber, has important by-products. The seed provides an oil for cooking and making soap, meal for feed for livestock, and

fertilizer. The short fibers, or linters, are used in making cellophane, smokeless gunpowder, rayon, and upholstery.

e. Tobacco needs a growing season of at least one hundred fifty days. Some tobacco is grown in scattered areas, but nine tenths of it is grown in the states of North Carolina, Kentucky, Tennessee, South Carolina, Virginia, and Georgia.

f. The Connecticut river valley is also an important tobacco raising region.

g. Tobacco takes its flavor from the soil. To get different flavors to blend with American tobacco, the United States imports tobacco from Turkey, Greece, Puerto Rico, and other countries.

6. Stock-raising and dairying are important in all parts of the United States but some areas have more advantages than others for specializing in these industries.

a. Three areas important for the raising of beef cattle are (1) the Great Plains which has just enough rainfall for grass to grow, (2) the Corn Belt with ample food for fattening the beef raised on the Great Plains, and (3) farmlands of the South where there is a longer period of green pasture and no need for barns.

b. There are dairy farms near every large city. Dairy-

ing depends on a cool climate, plenty of rainfall for grass and hay, nearness to market, and good transportation to market. These conditions exist in the northeastern states and therefore that region is the most important dairying section. Wisconsin is the leading dairying state.

c. Dairy farmers who live near the large cities sell fresh milk, but those who live great distances from densely populated areas make butter and cheese. Wisconsin is the leading cheese making state. Minnesota, Iowa, and Wisconsin produce a large share of our butter.

d. Two thirds of all the sheep found in the United States are raised on the dry, rough lands of the western highlands. Texas is the leading sheep raising state.

e. Sheep supply both meat and wool. Most of the sheep raised in the United States are grown for wool. A special breed of sheep called merino has been imported because of its wool. It thrives in our western states.

f. The Edwards Plateau in Texas is the most important goat-raising region. It is famous for its angora goats, a special breed whose fleece is called mohair.

g. Hogs are found on farms all over the United States, but most of them are raised in the Corn Belt states.

Corn Belt farmers find it more profitable to feed their corn to hogs than to sell the corn as grain.

h. Poultry farms are found mostly in the Corn Belt where feed is cheap and near large cities where there is a good market for eggs and fowl.

7. Although the natural resources have enabled the United States farmer to produce a variety of farm produce in great abundance, wasteful practices have ruined many acres of good farm lands. The United States farmer must now face the problems of restoration and conservation of our agricultural resources.

Probable Incidental Learning Products

1. Increased skill in obtaining specific, meaningful information by independent study.
2. An appreciation of and increased ability in using maps as a source of information.
3. A knowledge of how to arrange an orderly bulletin board.
4. An appreciation of the bulletin board as a source of information.
5. An appreciation of the farmer's place in the economy of the United States.
6. An appreciation of the dependence of the American people on the machine.
7. An appreciation of the ingenuity and resourcefulness of the American people in developing their natural agri-

cultural resources, and the resultant need for present-day conservation.

8. An understanding of our government's responsibility in promoting the development of the agricultural resources and promoting conservation practices.

The Unit Assignment

Introductory activities.-- A discussion of copies of paintings depicting life on the American farm which have been reproduced on the covers of "The Country Gentleman". (This activity is reported in more detail under the report of the teaching of this unit at the end of the chapter.)

A vocabulary test.

Core activities.-- 1/ The following activities were mimeographed and a copy was given to each pupil at the beginning of the teaching of the unit.

1. How does the United States rank among the other countries as a farming nation? Why does the United States have this rank? Which reasons are due to natural resources? Which are due to the character of the American people? Write a summary of the information you find in answer to the questions. Pass your summary in for credit. (35:386-391) (4:74-77) (3:141-147,173-174) (23:45-49) (8:74-77) (44:149-150) (5:182-183) (Optional Activity

1/ Explained on page 18.

1/ Continued on page 18.

5 b) (23:45-49)

2. Much of the prosperity of the American farmer is due to specialization and scientific farming methods. Why is the American farmer a specialist? What is scientific farming? (12:95-104) (7:32-38) (9:189-190) (36:193-199)

3. How does the government of the United States help the farmer? (12:190-198, 99) (47:208-212) (7:30-32) (46:158-173)

4. What is the difference between intensive farming methods and extensive farming methods? What are the advantages of extensive farming? What are the disadvantages of extensive farming? (1:311) (4:86-91) (46:133-134)

5. Explain why only 20% of our workers were farmers in 1930, while 90% were farmers in 1790. (35:386-391) (14:1-15) (12:100-103) (5:180-183)

6. Make a chart entitled Our Leading Cereal Crops. Find information for your chart and put it into three columns with these headings: Name of Crop, Where Produced in the United States, How the United States Ranks in World Production. Arrange your chart so that the grains are listed in order of their importance as cereal crops produced in the United States. Pass your chart in for credit. (23:29-42) (16:33-51) (2:12-23,140-161,163-170,216,239-265,273-292) (8:103-110) (9:198-207) (36:68-77,87-95) (46:53-70) (12:161-165) (35:371-384)

7. What is the Corn Belt? Ask your teacher for a special study guide. Complete the exercises and pass your paper in for credit.

8. The different varieties of wheat grown in our country are known as spring wheat, winter wheat, and durum wheat. What is meant by these terms? Why do we grow so many different varieties of wheat? Which variety is most important in our country? Where is each type of wheat produced? What special use is made of each variety? (47:54-55) (2:69-82) (23:38-40) (35:383-384) (46:132-133)

9. Wheat is grown in many states, but in several areas this crop is particularly important. Find answers to the following questions and write a summary with this title: The Important Wheat Producing Regions of the United States.

   a. What states are included in the most important wheat belt? (List eight.)

   b. Why is the wheat belt divided into two sections?

   c. What are the advantages of the wheat belt for growing wheat? (List three or more reasons.)

   d. What two areas outside the wheat belt are important for wheat production?

   e. What plateau is famous for wheat production?

   f. How is wheat produced in California?

(47:52-54) (35:372-373, 383-384) (23:37-40) (16:33-36) (7:42) (9:198-199) (1:308-311) (10:14-17) (5:172-173,185map)

10. What is the chief use of corn grown in the Corn Belt? What other uses are made of corn? (1:5-23) (7:47) (35:377) (2:195-208) (10:52-55) (23:42) (L2:117-119) (24: 374-375)

11. Where is corn for canning produced? Why? (23:34-35) (2:171-172) (24:212-216) (22:77)

12. Find three reasons why oats, barley, and rye are good crops for the United States farmer. Where are oats a particularly important crop? What state produces the most barley? Why? In what area is rye grown? (35:402) (24:370-372,386) (10:66-68) (3:239-266) (23:41-42) (12:163-165) (47:66-68) (46:139-140)

13. Which four states are the only important producers of rice? How do methods used by the United States rice farmer differ from those used by the rice farmer in China or Japan? (7:48) (9:204-206) (16:48-51) (12:165) (23:40-41) (3:283-292) (10:56-66) (24:273-275,541) (36:92-95) (47:68-69) (5:175-176) (8:77-79) (46:137-139) (Optional Activity 5 h)

14. List as many different ways as you can find by which the farmlands have been made more productive in the United States. (16:13-31) (9:231-241) (36:190-199) (12:95-104) (Optional Activities 7 i,m,n,r,s,p,and y)

15. What is a truck farm or truck garden? Is there any difference in meaning between a market garden and a truck farm? Where are truck farms usually located? (7:51-52)

(36:119-120) (9:215-216) (23:50-51) (16:73) (5:179) (8:57) (Optional Activity 7v and 5a)

16. What region is the greatest gardening and truck farming region? What three advantages give this area its importance? What vegetables are grown in great quantities? (47:75) (23:50) (8:57) (46:145-146)

17. Name and locate the four states which specialize in growing winter vegetables for northern markets. What areas of these states are especially suited to growing vegetables? Which state supplies most of our fresh vegetables in winter? What vegetables may come from other states? (10:73-74) (1:51-53) (23:50-52) (5:179)

18. Why is the potato considered our most important vegetable crop? Locate the region which produces most of the potatoes. What other great farm belt is south of this region? What are the advantages of this area for the production of potatoes? What is the most noted area for the production of potatoes in the United States? Why? (47:75-77) (7:53) (36:122-124) (9:216) (23:52) (22:76) (46:146-147) (Optional Activity 7 n)

19. Although many kinds of fruit can be grown in the United States, the apple, orange, grapefruit, and grape have greatest commercial importance. Why is this so? (47:81-85) (7:57-58) What three regions are especially noted for apples? (47:81) (7:59) (36:127-128) (9:217)

(23:54-56) (46:147) What three states grow all the citrus fruits? Which leads in the production of oranges? Which leads in the production of grapefruit? (47:81-82) (7:61-62) (36:136-137) (9:220) (23:56) (46:149) (1:53-54) What two areas specialize in grape production? Do these regions grow the same varieties of grapes? (47:82) (7:60-61) (36:134-135) (9:218-219) (23:56) (8:58) (46:148)

20. What state is our leading fruit producing state? Why does this state have a monopoly of the fruit drying industry? What dried fruit products do we obtain from this state? (9:221-222) (16:69-70) (44:166-168) (36:131) (46:150) (21:149)

21. Explain why the canning industry is scattered through so many states rather than concentrated in one or two special areas. (12:283-284) (44:168-169) (23:57-58)

22. What problem has limited the production of fruits and vegetables in the past? What two modern developments have caused an ever-increasing market for these crops? (12:102-104) (47:73-74) (7:52-53) (9:220-221) (16:68-70) (16:73-74) (Optional Activities 5 b and h, 7 q, u, and mm)

23. Write a summary paragraph with this title: <u>Why the United States Does Not Produce the Sugar It Needs</u> In your summary use the information you find in answer to the

following questions:

a. What two crops supply most of the world's sugar? (16:52-53) (47:87) (8:79-80,125-126) (46:142-144)

b. What conditions are needed to grow each of these crops successfully?

c. Where can these crops be grown in the United States? (16:54-60) (10:331-340) (47:89-92) (7:64-68) (1:92-93) (44:169-170) (23:62-64) (Optional Activity 7 nn)

d. What part of the world's sugar supply does the United States use? How much of this sugar is produced in the United States? (16:52) (47:88) (10:330-331) (23:62)

e. Where does the United States obtain its sugar supply? (10:331) (47:92-93) (35:533-534) (9:213) (1:339-355)

f. What other sources of sugar does the United States have? Where are these kinds produced? (12:342-345) (7:68) (9:215) (22:75)

24. Are sugar beets raised by intensive or extensive farming methods? Why don't the farmers of the United States raise more sugar beets? Why is this crop more valuable in the West than in any other section? (9:214) (44:169-170) (23:63-64) (7:66-68) (36:157) (8:125-126) (The Silver Wedge)

25. What conditions have kept many of the farmers of the South poor? What is being done to remedy these conditions? (35:400-412) (16:116) (47:100-101) (23:71) (1:68-70) (44:183-184) (24:259-270) (28) (Optional Activity 7 m)

26. How does the United States compare with the other countries of the world in the production of cotton? Of tobacco? (23:4-5) (9:222-224) (7:97) (47:94,105) (46:151)

27. What is the Cotton Belt? Obtain a special study guide from your teacher and complete the exercises. Pass your paper in for credit.

28. What is the meaning of the phrase "Cotton is King"? (35:397-400) (23:67) (44:183) (28:20-21)

29. What are the by-products of cotton production? What are "linters"? How are they used? (23:71) (47:104-105) (1:73-74) (7:100-101) (9:224) (24:259) (44:185) (28:110-114)

30. Find two reasons why farmers in Arizona and California - two states outside the Cotton Belt - are raising more cotton than some Cotton Belt farmers. (44:184-185) (47:210) (24:530-531) (16:111-113) (28:29-38) (Optional Activity 7 kk)

31. Where in your own state is tobacco an important crop? Why? (24:211-212) (44:187) (23:74)

28. What conditions have kept many of the farmers of the South poor? What is being done to remedy these conditions? (38:4D0-4I3) (16:11e) (4V:1D3-1D7) (33:V1) (1:39-V0) (44:1D8-1D4) (24:5B0-5V0) (3A) (Optional Activity V m)

29. How does the United States compare with the other countries of the world in the production of cotton? Of tobacco? (33:4-8) (9:3BC-3B4) (V:N7) (4V:3A-1D3) (43:1B1)

30. What is the Cotton Belt? Obtain a special study guide from your teacher and complete the exercises. Pass your paper in for credit.

31. What is the meaning of the phrase "Cotton is King"? (33:3BV-4D0) (33:8V) (44:1B3) (33:2C-3I)

32. What are the by-products of cotton production? What are "timbers"? How are they used? (33:V1) (4V:1D4-1D8) (1:Z3-Z4) (V:1D3-1D1) (3:3B4) (34:3B3) (44:1B6) (38:1I0-1I4)

33. Find two reasons why farms in Arizona and California - two states outside the Cotton Belt - are raising more cotton than some Cotton Belt farms. (44:1B4-1B8) (4V:3I0) (2:3B0-3B1) (1B:1I1-1I3) (38:3C-3D) (Optional Activity V bN)

34. Where in your own state is tobacco an important crop? Why? (34:3I1-3I3) (44:1B7) (33:V4).

32. Tobacco may be grown in many parts of the United States, but nine tenths of it is grown in six states. Find out which six states produce most of our tobacco crop. What advantages have these states for specializing in tobacco production? (24:389-392) (47:94) (36:179-180) (23:72-74) (9:222-223) (44:185-189)

33. How much of the world's tobacco crop is grown in our country? Why, then, does the United States import tobacco from other countries? From what countries does the United States import tobacco? (23:5) (24:299-301) (47:261,296) (12:444) (36:181-182) (5:161)

34. What three sections of the United States have special advantages for raising beef cattle? What are the advantages of each of these areas? (10:73-83) (44:170-174) (7:72) (35:435-447) (47:117) (24:378,266-267) (23:75-76) (24:477-478)

35. What breed of sheep was introduced into this country? Why? Where are they raised? (44:176) (5:61-62) (36:33 illustration)

36. Why is dairy farming most important in the northeastern states? Which state leads in the dairy industry? What dairy products can this state send us? Why? What other states specialize in these products, too? (16:83) (32) (44:174-175) (7:73-74) (35:365) (47:129-131) (23:76-78)

37. The United States farmer raises sheep for what two rea-

sons? Which is more important? (16:84-85) (47:121) (23:79)

38. In which part of the United States are two thirds of the sheep raised? What are the advantages of this region for raising sheep? What is the leading sheep-raising state? (16:85-87) (7:76-77) (47:121) (23:78-79) (22:130-131)

39. Where are hogs raised in our country? What special advantages make one area exceed all others in production? (24:374-377) (47:119-120) (23:80) (36:106-107) (9:228) (10:92-98) (16:87-88) (7:74-76) (46:154-155)

40. What is mohair? Where is it produced in our country? (36:29-30) (23:79) (9:123) (5:48-49)

41. Where are poultry farms usually located? Why? What area has more poultry farms than any other area? Why? (5:179) (47:123-124) (36:108-109) (16:88-90) (7:78) (9:228) (44:180-181) (46:154)

42. You live in a manufacturing community. How do you account for the fact that there many dairy and poultry farms in your town? (5:179-180) (9:195)

43. What farm products are imported from other parts of the world? Are these mainly luxury items or essential materials? (36:387) (12:348-352) (47:555-572) (23:243-250) What agricultural products are important in our export trade? (23:253-258) How important are our farm products

in our export trade? How important are our farm products in our domestic trade? (23:217-220) (36:379) (12:342-343) (47:555-572)

44. Be prepared to write a summary of this unit. The title will be The United States - A Leading Agricultural Nation. Plan to include information under these points:

a. The factors which have contributed to making this a great farming country, both geographical and others.

b. The variety of crops grown on American farms

(1) Where they are raised

(2) Why these areas specialize in their production

(3) How they are produced by the American farmer.

You should mention the cereal crops, vegetables, fruit, sugar, cotton, tobacco, stockraising, and dairying.

c. The importance of our agricultural products in domestic and foreign trade.

d. Problems the American farmer is trying to overcome.

Optional related activities.-- These activities have been explained on page 25.

1. Maps to be made.

a. A product map showing the areas most important for the different farm products. (16:89) Use pictures from magazines to illustrate the products.

b. A map of the agricultural regions of the United States. (9:196) Prepare an oral talk explaining the map to the class. (9:183-193)

c. A map to show the percentage of improved farm lands in each state. By colors show which states have a percentage of (1) 60-80, (2) 40-60, (3) 20-40, Be ready to tell the class why there is more farm land in some states than others. (4:77)

2. Prepare a picture chart illustrating new things we make from farm products. Refer to a pamphlet, "Heritage of the Soil" which you may obtain from your teacher. Clip pictures for your chart from magazines.

3. Volunteer to arrange a bulletin board.

a. Work on American Farms in the Spring. Obtain booklets from the classroom file entitled "Spring Planting" and "Spring on Farms in Pennsylvania".

b. Milk. Obtain a booklet with the same title from the file. Be ready to explain the pictures to the class.

c. How American Farms Helped in the War. Obtain a booklet entitled "Farming for War" from the classroom file and be ready to explain the pictures to the class.

d. A bulletin board of your own choice for which you make a collection of pictures. You may have some other members of the class help you look for the pictures.

e. How Cheese is Made. Obtain pictures from the classroom file and explain them to your classmates.

4. Oral talks.

a. Find out and report to the class on the making of alcohol from cereal grains. Show the pictures from the booklet on this subject in the classroom file.

b. Give a talk on Angora goats. Use the booklet from the classroom file to illustrate your talk.

c. Give a talk on the Boll Weevil. Tell how it has helped and how it has hindered the farmer in the South. Use the pictures from the classroom file to illustrate your talk.

d. Find out about horse raising in the United States. What is an albino horse? Prepare a short talk on horse raising and show the illustrations of the booklet, "Life Visits White Horse Ranch" to the class.

e. One reason why the United States farmer produces more food crops today is that we have found better ways to preserve foods. Read and report to the class on new ways of food preservation. (21:140-173) You may limit your talk to one of these subjects if you wish: (1) How Tomato Soup is Canned, or (2) At Work in a Sugar Refinery

f. How is maple syrup made? Make a report to the class.

Obtain the booklet, "Vermont Harvests Its Maple Syrup" from the classroom and use it to illustrate your talk.

g. Find out what a collective farm is. Tell the class. Show the pictures on the collective farms of Russia which are in the classroom file.

h. Read the booklet on "The United States Wheat Farmer Gets a Good Price for a Bumper Crop". Show the illustrations to your classmates and explain them.

5. Read some interesting booklets from the classroom file and write a brief summary of them. The author and title are given below:

a. Clark, Neil M. Followers of the Fleece

b. Taylor, Frank J. Vegetables Made to Order How are new vegetables created and the varieties improved so that the truck gardener can please his city customers?

c. Bennett, H. H. Acres Are Aces How does the United States compare with other countries in the amount of cultivable land? How important were the farm lands in the world war?

d. Peterson, Elmer T. Floods are Unnecessary What happens to our farm lands when there is a flood? Read about a journey through the flooded Arkansas River Valley.

e. Smith, Helena H. How to Live 70 Miles from Town What is life like on a ranch in Wyoming?

f. Hibbs, Benjamin The Bogy of Synthetics Will cotton lose its importance and be replaced by synthetic fibers? What effect would this have on the farmers in the South?

g. Bullette, Sara All Kidding Aside

h. Sass, H. Fateful Island What are the problems of the rice farmer in South Carolina?

i. Wickard, Claude Featherweight Foods

j. Baum, Arthur Man With a Horse and Wagon

6. Read one of the books in the classroom library and pass in a written statement telling why or why not you would recommend this book to your classmates to read.

a. Seeing Our Country Book One In this book you will take imaginary visits to American farms with boys and girls your own age.

b. The Cotton Industry

c. Milk Production

7. Interesting articles to read in the Reader's Digest are listed below. You may choose one or more for either a written or oral report.

a. Poison from the Sky October 1939, pages 65-67

b. Let 'Em Drink Grade A January 1940, pages 78-82

c. New Strength for the Staff of Life April 1940, pages 23-26

d. Up from the Dust July 1940 pages 20-22 and Is the Dust Bowl Coming Back? June 1946, pages 116-120

e. More Power to the Farmer August 1940, pages 58-60

f. Soybean Pioneer September 1940, pages 70-72

g. Molasses Rides the Range October 1940, pages 61-64

h. Supercharged Flour January 1941, pages 111-113

i. Earthworm Farmer February 1941, pages 53-54

j. Go West, Young Man April 1941, pages 106-108

k. Run, Sheep Dog, Run May 1941, pages 57-60

l. The Water's In June 1941, pages 101-103

m. Revolution in Southern Agriculture August 1941, pages 94-97

n. Magic in the Muck February 1942, pages 126-128

o. Oil on a Branch April 1942, pages 65-68

p. World's Most Fantastic Farm June 1942, pages 26-28

q. The Pantry of Democracy November 1942, pages 113-116

r. Missouri's Fighting Priest May 1943, pages 107-110

s. Rebirth of an American Farm September 1943, pages 76-80

t. Are You Neglecting the Wonder Bean? September 1943, pages 107-109

u. Now That We Have the Freezing Outfit November 1943 pages 7-10

v. Assembly-Line Farmer January 1944, pages 95-97

w. Friends of the Land January 1944, pages 61-64

x. Tomorrow's Menu February 1944, page 15

y. How the Mason Place Affects You February 1944 pages 35-37

z. Revolution in Rice February 1944, pages 50-52

aa. What the T.V.A. Means October 1944, pages 37-40

bb. Uncle Sam's Valiant Plant Hunters October 1944, pages 94-96

cc. Ohio's Co-op Giant October 1944, pages 113-114

dd. Can the Farm Catch Up With the Machine Age? October 1944, pages 77-82

ee. Kudsu - Another Agricultural Miracle January 1945, pages 94-96

ff. Now Farmers Grow Fish January 1945, pages 84-86

gg. New Pioneer of the Land May 1945, pages 105-108

hh. Tailor-Made Livestock June 1945, pages 38-40

jj. Revolution in the Corn Belt September 1945, pages 23-26

kk. Revolution in Cotton October 1945, pages 84-86

ll. New Things Coming in Textiles November 1945 pages 55-58

mm. All the Food That's Fit to Eat November 1945 pages 21-24

nn. Why You Can't Have Enough Sugar December 1945, pages 53-55

oo. Battle Over the Missouri Valley April 1946, pages 69-73

pp. New Ruler of the Roost - The Hy-Line Chicken March 1946, pages 55-58

A Vocabulary Test

Directions: Write the best definition you can for the following words and phrases.

truck farms

irrigated farms

growing season

market gardening

delta

sorghum

mohair

livestock

durum

mature

cultivate

extensive farming

intensive farming

erosion

crop rotation

harvest

boll weevil

farm cooperative

sediment

ensilage

A Vocabulary Test

Directions: Write the best definition you can for the following words and phrases.

_____ simple farms

_____ Diversified farms

_____ farming region

_____ market gardening

_____ dairy

_____ poultry

_____ orchard

_____ livestock

_____ dairy

_____ pasture

_____ cultivate

_____ extensive farming

_____

_____ intensive farming

_____

_____ erosion

_____ crop rotation

_____ harvest

_____ hoof worm

_____ farm cooperative

_____

_____ market

_____ wheat

Special Study Guide

The Corn Belt

Obtain an outline map of the United States. Letter the names of the states in the Corn Belt. Shade in the area that is known as the Corn Belt. Put an appropriate title on your map. Pass the map in for credit with this sheet.

Complete the sentences below. You will find the information that you need in these references: (47:63-64) (23:29-32) (24:366-370) (35:376-380) (16:63-64)

1. The Corn Belt extends westward from _____ through _____, _____, _____, northern _____, _____, _____, southern _____, and southern _____. (List nine states.)
2. The advantages the Corn Belt states have are (1) _____ land, (2) _____ soils, (3) _____ rainfall, (4) a _____ growing season, and (5) _____ summer temperatures.
3. The Corn Belt produces _____ (one half, two thirds, one fourth, all) of the corn grown in the United States.
4. The United States produces _____ (one half, two thirds, two fifths, all) of the world's corn.
5. Why does the Corn Belt not extend any farther north? Why not any farther south? east? west? Give specific reasons for the limits in each direction. Answer in a paragraph.

Special Study Guide

The Cotton Belt

Read the following references for the information you will need to complete the sentences below. (23:67-71) (47:96-107) (28:26-38) (8:69-75) (1:60-78)

1. With the invention of the _____ by _____, cotton became the chief clothing material of the world.
2. The states included in the Cotton Belt are (List ten states) _____

_____

_____
3. The northern boundary of the Cotton Belt is set by the length of the _____ _____. Cotton needs _____ days to ripen.
4. The Cotton Belt does not extend farther to the west because there is not enough _____. Cotton is raised by _____ in the valleys of the states of _____ and _____. A different variety of cotton with long _____ can be grown successfully. Many of the larger farms are producing cotton entirely by _____.
5. The southern boundary of the Cotton Belt is fixed by too much _____ in late summer.
6. Cotton cannot be produced on the eastern edge of the Atlantic Coastal Plain because of the _____.

(continued on the next page)

Special Study Guide

The Cotton Belt (continued)

7. Within the Cotton Belt are three areas which produce more cotton than in other areas. This is because these parts of the Cotton Belt have a very _____ _____ . Production of cotton is heavy in the _____ _____ _____ region in Texas, the valley of the _____ in _____ and _____, and the _____ _____ belt of _____ .

8. Obtain an outline map of the United States. Letter in the names of the states that should be included in the Cotton Belt. Shade the area known as the Cotton Belt. Darken the three areas which are the most important producing areas. (See Exercise 7 above.) Put an appropriate title on your map. (23:68) (1:63) (7:97) (47:105)

Progress Test I

Directions: Choose a word from the list at the right of the paragraph to fill each blank. Put the number of the blank in the parenthesis beside the word you choose. Some parantheses will not have any numbers in them. One will have two numbers. That word is needed to fill two blanks.

Part One

The United States ranks __1__ as an agricultural nation. Certain natural __2__ have __3__ the agricultural industry. Among these __4__ are __5__ areas of __6__ land, __7__ rainfall in most of the country and a variety of __8__, and __9__ seasons of different lengths, which make __10__ the production of __11__ different kinds of __12__.

( ) possible
( ) impossible
( ) level
( ) large
( ) advantages
( ) third
( ) first
( ) limited
( ) growing
( ) many
( ) few
( ) crops
( ) little
( ) helped
( ) abundant
( ) soils

(continued on the next page)

Progress Test II

Directions: Fill the blanks with words which will make true statements. Write the words on the blank lines at the right. Notice that these lines are numbered to correspond with the numbers in the blanks.

The most important cereal crop in the United States is __1__ . United States produces __2__ of the world's supply. __3__ of all that is produced in the United States is grown in an area that extends westward from __4__ to Kansas, Nebraska, and South Dakota. This region is known as the __5__ . It has four special advantages for growing this grain. These advantages are __6 a,b,c,d__.

1. _____
2. _____
3. _____
4. _____
5. _____
6. a. _____
   b. _____
   c. _____
   d. _____

The second most important grain crop in our country is __7__ . Although __8__ produces more than any other country in the world, the United States ranks __9__ in the production of this grain. This grain is grown in a belt of states extending southward from North Dakota to northern __10__, because these states have, among other advantages, a particularly __11__. __12__ is the leading state in its production. Three main varieties are grown, depending on the climate of the area. In the northern states __13__ is grown, while in the states farther south __14__ is grown. On the drier lands __15__, a variety imported from __16__ is grown. This crop is also important in the irrigated valleys of the __17__ Plateau.

7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____

(continued on the next page)

Progress Test II (continued)

Three other grain crops that are popular with the United States farmer are 18, 19, and 20. The farmer helps to keep his lands fertile by 21 these grains with other crops. He can use the same 22 to harvest them and plant them. They also provide a cheap 23 for 24. Of the three grains, 25 thrives best in the Corn Belt, but the cooler, moist climate of the states north of the Corn Belt is better suited for the growing of 26. California produces the most 27.

18._____
19._____
20._____
21._____
22._____
23._____
24._____
25._____
26._____
27._____

Another grain crop which is an important food for millions of people in this world is 28, which is an important crop in only four states of our country. These states are 29, 30, 31, and 32. The United States farmer uses 33 to plant and harvest this grain, but in other parts of the world, particularly 34 and 35 in Asia, it is raised by 36. labor.

28._____
29._____
30._____
31._____
32._____
33._____
34._____
35._____
36._____

Progress Test III

Directions: Fill the blanks with words which make the statements true. Write the words on the blank lines at the right. Notice that these lines are numbered to correspond with the numbers of the blanks in the sentences.

Vegetables which are raised to sell are grown on __1__ farms. This kind of farm can be found near large __2__

The greatest vegetable growing region in our country is the __3__. The three special advantages of this area for growing vegetables are __4__, __5__, and __6__.

Four areas in the South specialize in growing fresh winter vegetables for northern markets. These areas are __7__, __8__, __9__, and __10__.

Our most important vegetable crop is the __11__ which is grown in the states north of the __12__ where the __13__ __14__ climate, the __15__ soils, and nearness to a __16__ are advantageous. A small area in the state of __17__, known as __18__ has become famous for the production of this vegetable.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____

(continued on the next page)

Progress Test III (continued)

Our most important commercially grown fruits are 19 , 20 , 21, and 22 . Farms in western New York, the Appalachian Highlands, the irrigated valleys of Washington are especially noted for the production of 23 . More 24 are produced in California than in any other state, but Florida produces half of our 25 crop. Two areas that specialize in growing 26 are California and the area bordering Lake Erie.

Better methods of 27 and 28 have encouraged the fruit grower to raise more fruit because there is now a greater 29 for his produce.

California has a monopoly of the 30 drying industry because it has a 31 climate. Some of California's dried products are 32 , 33 , 34 , 35 , and 36 .

19._____

20._____

21._____

22._____

23._____

24._____

25._____

26._____

27._____

28._____

29._____

30._____

31._____

32._____

33._____

34._____

35._____

36._____

Progress Test IV

Directions: Answer each question with a word or phrase.

1. Which section of the Cotton Belt produces the most cotton - the east or the west? _____

2. Name a section of Texas which is noted for its heavy cotton production. _____

3. Cotton raising is especially important in what river valley shared by two states? _____

4. What two Cotton Belt states share this river valley? _____

_____

5. What insect pest has brought destruction to many cotton farms? _____

6. What recent invention has revolutionized the cotton industry? _____

7. Much cotton is raised in the irrigated valleys of what two western states? _____

_____

8. What part of the cotton plant is most valuable? _____

9. List five by-products of cotton.

_____

10. Name the six states that produce most of the United States tobacco crop.

_____

_____

(continued on the next page)

Progress Test IV (continued)

11. What area in Massachusetts is suitable for raising tobacco? _____

12. Where does tobacco get its flavor? _____

13. Name three countries from which the United States imports tobacco.

_____

14. Is tobacco an important export of the United States? _____

Progress Test V

Directions: Answer each question with a word or a phrase.

1. Name three areas especially important for raising beef cattle.

_____

2. What section of the United States is most important for dairying? _____

3. What four advantages has this area for dairying?

_____

_____

4. Which state is the leading dairy state? _____

5. What product is sold by dairy farmers who live near large cities? _____

6. What state leads in making cheese? _____

7. Which three states produce most of our butter?

_____

8. Which state produces the most sheep? _____

9. Are sheep raised in the United States mainly for meat, or for wool? _____

10. What special breed of sheep has been imported into this country and is raised in the West?

_____

11. Name the important goat-raising region in Texas.

_____

12. What kind of goats are raised there? _____

13. What is the fleece of these goats called? _____

(continued on the next page)

Progress Test V (continued)

14. What region is noted for the production of hogs?

_____

15. What advantage has this area for raising hogs?

_____

16. Name two types of farms that are usually located near large cities.

_____

_____

17. List three ways many acres of good farm land has been wasted.

_____

_____

_____

18. List three ways by which the farm lands of the United States can be improved.

_____

_____

_____

The Mastery Test

Directions: Read each statement carefully. Some statements are true and some are false. If you decide that the statement is true, mark it T in the parenthesis at the right. If it is false, mark it O in the parenthesis at the right.

1. Large areas of level and gently rolling lands have promoted the use of intensive farming methods in the United States (O)

2. Throughout the farming areas of the United States a deep, black humus soil can be found. (O)

3. The variable rainfall conditions in the United States are favorable for the production of many different kinds of crops. (T)

4. The variety of regions included in the borders of the United States is one of its greatest advantages for agricultural development. (T)

5. Southwestern United States, an area with less than ten inches of rainfall, can not be used for farms. (O)

6. Large areas of level or gently rolling lands are a geographical advantage for farming in the United States. (T)

7. Another advantage the agricultural industry of the United States has is growing seasons of different lengths. (T)

8. The length of the growing season in the different parts of the United States is determined by the number of days between planting and harvesting of any crop grown in that area. (O)

9. Because many people have moved from the country to the city, the production from United States farms has decreased. (O)

10. It is the policy of the United States government to withhold scientific farming information from all but the college educated farmer. (O)

(continued on the next page)

The Mastery Test (continued)

11. The United States farmer has become a specialist since the development of modern transportation. (T)

12. One hindrance to the development of the agricultural industry in the United States has been the apparent disinterest of the government in improving farm lands. (O)

13. The agricultural supremacy of the United States is directly due to the use of labor-saving, time-saving farm machinery. (T)

14. The United States government should be given credit for helping this country achieve first rank as an agricultural nation. (T)

15. Fewer men are now employed on United States farms than were employed fifty years ago. (T)

16. In United States many farmers have been able to farm successfully in regions of very light rainfall. (T)

17. Increased production of food and raw materials is the result of better methods of transportation. (T)

18. The production of cereal crops is limited to the Corn and Wheat Belts. (O)

19. The Corn Belt has a cool moist climate suited to growing corn. (O)

20. The fertile soil in the Corn Belt is underlaid with limestone. (T)

21. The Corn Belt includes the states of Ohio, Kansas, Kentucky, Tennessee, Arkansas, Missouri, and Iowa. (O)

22. Four fifths of the world's corn crop is produced in the United States Corn Belt. (O)

23. A level or gently rolling surface has been one of the chief advantages of the Corn Belt. (T)

(continued on the next page)

The Mastery Test (continued)

24. The United States ranks second to Russia as a leading corn producing nation. (O)

25. Canned corn is the leading product of the Corn Belt states. (O)

26. The southern part of the Corn Belt specializes in growing sweet corn for canning because it has a heavier rainfall and longer growing season. (O)

27. Alcohol, oil, sugar, rubber, and syrup are some of the many products that can be made from corn. (T)

28. The United States leads the world in wheat production. (O)

29. Wheat is the leading cereal crop in the United States. (O)

30. Most of the corn grown in the Corn Belt is used to feed cattle, hogs, and poultry. (T)

31. Sweet corn for canning is grown north of the Corn Belt. (T)

32. Maine is noted for its canned corn. (T)

33. Wheat is raised in the Corn Belt. (T)

34. Wheat is produced in as many states in eastern United States as is corn. (O)

35. One half of the United States wheat crop is grown in a belt of states located at the eastern edge of the Great Plains. (T)

36. Two thirds of the world's wheat is produced in the United States. (O)

37. Wheat requires a climate which is more moist than corn. (O)

38. A black humus soil is found in the belt of states extending southward from North Dakota to Texas. (T)

(continued on the next page)

(continued on the next page)

The Mastery Test (continued)

39. Frequent showers during the harvesting period are favorable to wheat production. (O)

40. More wheat is produced in Kansas than in any other state. (T)

41. Winter-wheat is produced in the irrigated valleys of California. (T)

42. Both winter and spring-wheat can be raised in the Columbia Plateau region. (T)

43. Spring-wheat is produced in Montana and Minnesota. (T)

44. Winter-wheat is planted in the late winter or early spring as soon as the frost is out of the ground. (O)

45. Most of the winter-wheat is produced in the northern part of the wheat belt. (O)

46. Durum wheat is a variety best suited to the eastern sections of the wheat belt because the late summer rains do not cause this plant to rust. (O)

47. Oats, barley, and rye can be grown successfully under less favorable growing conditions than corn or wheat. (T)

48. Oats, barley, and rye are planted by the corn and wheat farmers because the same machinery can be used. (T)

49. Durum wheat was first planted by the American Indian. (O)

50. Oats are used chiefly for a breakfast food in the United States. (O)

51. Oats are grown chiefly in the Corn Belt. (T)

52. Next to corn, barley is the most important grain crop in the West. (O)

(continued on the next page)

The Mastery Test (continued)

53. Because rye needs less rainfall and higher temperatures, it thrives best in the winter-wheat belt. (O)

54. Louisiana, Arkansas, Texas, and California are the only important rice producing states. (T)

55. The United States produces more rice than it needs. (T)

56. By planting and harvesting rice with machinery instead of hand labor, the United States has become the leading rice producing country. (O)

57. The United States farmer produces more bushels per acre of rice than does the Chinese farmer. (O)

58. Vegetables and fruits are produced in abundance on farms in all parts of the United States. (T)

59. Nearness to market is the factor which gives the truck farmer located in a city suburb a great advantage. (T)

60. More vegetables are raised in the irrigated valleys of the Southwest than in any other area. (O)

61. The sandy soil of the Atlantic Coastal plain helps to make this area the greatest truck gardening region. (T)

62. More truck farms are found in eastern United States than in western United States. (T)

63. Speedy transportation facilities are more essential to the truck gardener than to the wheat farmer. (T)

64. All of the fresh vegetables sold in northern markets in winter come from either Texas or Florida. (O)

65. The Salt River Valley is in Arizona. (T)

66. The Black Waxy Prairie in Texas is noted for truck gardening. (O)

67. The lettuce in our markets in winter may come from the Imperial Valley. (T)

(continued on the next page)

The Mastery Test (continued)

68. The sugar beet is our most important vegetable crop. (O)

69. Potatoes grow best in the cool moist climate suitable for hay crops. (T)

70. The Atlantic Coastal Plain from New Jersey to Florida specializes in growing the common varieties of potatoes. (O)

71. Potatoes grow best in delta lands. (O)

72. Because potatoes keep well after they are harvested, it is of little advantage for the potato-grower to be located near large cities. (O)

73. The irrigated valleys of Washington have special advantages for growing oranges. (O)

74. More potatoes are grown in Aroostook County than in any other county in the United States. (T)

75. The United States leads the world in the abundance and variety of its fruit production. (T)

76. Apples, oranges, bananas, and grapes are the most important commercially produced fruits in the United States. (O)

77. Apples can be grown in every state. (T)

78. The Appalachian Mountain states produce a large share of the United States apple crop. (T)

79. Western New York is one of the most important apple producing regions. (T)

80. A climate which has mild, rainy winters and hot, dry summers is called a Mediterranean climate. (T)

81. Washington is the leading fruit producing state because of its many irrigated valleys. (O)

82. California has a monopoly of the fruit drying industry. (T)

(continued on the next page)

The Mastery Test (continued)

83. Some of the large grapes grown in California are dried and sold as prunes. (O)

84. More oranges are produced in the United States than any other country in the world. (T)

85. More oranges are produced in Florida than in California. (O)

86. More grapefruit are produced in Florida than in Texas or California. (T)

87. More fruit is dried in California than in any other state because more dehydration plants have been built there. (O)

88. Next to apples, oranges are the most important commercially produced fruit. (O)

89. The grapes used for making raisins are produced in California and not in the East. (T)

90. Grapes are a special crop for the lands on the western shores of the Great Lakes. (O)

91. Production of fruits and vegetables has greatly increased as the result of the invention of the refrigerator car. (T)

92. Because better ways of preserving fruits and vegetables have been found, the farmers now grow less than they formerly did. (O)

93. Better methods of transportation caused an increase in the production of fruits. (T)

94. Sugar cane production is most important in southern Louisiana. (T)

95. Production from the sugar cane and sugar beet farms is sufficient to supply the needs of the American people. (O)

96. Sugar is imported because most people prefer cane sugar to beet sugar. (O)

(continued on the next page)

The Mastery Test (continued)

97. Sugar cane needs a longer growing season than other crops produced in the United States. (T)

98. Sugar cane thrives well in the sandy soils of the Gulf Plains. (O)

99. Louisiana is the only state which has suitable conditions for growing sugar cane. (O)

100. The sugar cane in the United States can be harvested two months after it is planted. (O)

101. Most of the sugar cane grown in the United States is used for making syrup rather than for sugar. (T)

102. United States has few areas suitable for sugar beet production. (O)

103. The sugar beet is an easy crop to grow because it requires little cultivation. (O)

104. Most of the sugar beet crop is produced by irrigation in western valley lands. (T)

105. Sugar beets require extensive farming methods. (O)

106. California is an important producer of sugar beets. (T)

107. United States farmers plant as many acres as possible to sugar beets. (O)

108. The people of the United States use over one fifth of the world's total sugar supply. (T)

109. The United States imports sugar from Cuba, Hawaii, the Philippine Islands, and Puerto Rico. (T)

110. The southeastern part of the United States has abundant rainfall and a growing season of at least 200 days. (T)

111. The United States produces nine tenths of the world's cotton. (O)

(continued on the next page)

The Geography Book (continued)

97. Sugar cane needs a longer growing season than other crops produced in the United States. (T)

98. Sugar cane thrives well in the sandy soils of the Gulf States. (C)

99. Louisiana is the only state with hot summers conditions for growing sugar cane. (C)

100. The sugar cane in the United States can be harvested two months after it is planted. (C)

101. Most of the sugar cane grown in the United States is used for making high yield beet sugar. (T)

102. United States has too many suitable for sugar beet production. (C)

103. The sugar beet is an early crop to grow because it requires little cultivation. (C)

104. Most of the sugar beet crop is produced by irrigation in western valley lands. (T)

105. Sugar beets require extensive farming methods. (C)

106. California is an important producer of sugar beets. (T)

107. United States farmers plant as many acres as possible to sugar beets. (C)

108. The people of the United States use over one fifth of the world's total sugar supply. (T)

109. The United States imports sugar from Cuba, Hawaii, the Philippine Islands, and Puerto Rico. (T)

110. The southeastern part of the United States has abundant rainfall and a growing season of at least 200 days. (T)

111. The United States produces nine tenths of the world's cotton. (C)

(continued on the next page)

The Mastery Test (continued)

112. Cotton is grown in a belt of states extending south and westward from North Carolina to Texas. (T)

113. More cotton is raised in eastern Alabama than in western Alabama. (O)

114. Certain areas within the Cotton Belt specialize in growing more cotton than other areas. (T)

115. More cotton can be raised in the Mississippi Valley region of Arkansas and Mississippi than in most of the other parts of the Cotton Belt. (T)

116. A deep, rich, fertile soil gives the Black Waxy Prairie of Texas an advantage for specializing in cotton growing. (T)

117. Cotton is now being successfully raised by irrigation in northern California. (O)

118. More and more southern farmers are planting cotton. (O)

119. The boll weevil has done little damage in the western and northern parts of the Cotton Belt. (T)

120. Cotton can now be successfully produced entirely by machinery. (T)

121. The area east of the Mississippi is becoming more important for cotton than the area west of the Mississippi. (O)

122. When a long-fibered cotton was introduced into this country, it became an important crop in the irrigated valleys of Arizona and California. (T)

123. The invention of a successful cotton-picking machine has encouraged the farmers in Arizona and California to grow more cotton. (T)

124. Cotton linters are cotton seeds. (O)

(continued on the next page)

The Mastery Test (continued)

(T)

(T)

(T)

The Mastery Test (continued)

125. Manufacturers of rayon products depend upon the cotton farmer for raw materials. (T)

126. The stalk of the cotton plant yields the fibers from which cotton cloth is made. (O)

127. Linseed oil is a valuable by-product of the cotton plant. (T)

128. Cellophane is made of cotton fibers. (T)

129. Nine tenths of the United States tobacco crop is produced in North Carolina and its surrounding states. (T)

130. No tobacco can be produced in northern states. (O)

131. The United States imports tobacco because not enough can be raised in this country. (O)

132. The United States imports tobacco from Turkey. (T)

133. Most of the tobacco imports come from Argentina and Brazil. (O)

134. Tobacco gets its flavor from the soil. (T)

135. Tobacco is one of the important exports of the United States. (T)

136. Tobacco and sugar are the two important products Puerto Rico sells to the United States. (T)

137. Stockraising and dairying are important industries in all parts of the United States. (T)

138. Most of the beef cattle raised in the United States are fattened in the Great Plains. (O)

139. Pasture lands of the densely populated eastern states are particularly important in beef production. (O)

140. Cattle raising is becoming more important in the South. (T)

(continued on the next page)

The Mastery Test (continued)

141. Beef cattle can be raised more cheaply in the South than in the Northeast. (T)

142. The Great Plains is the most important area for dairying because it has enough rainfall for a good hay crop. (O)

143. The Corn Belt farmer earns more from the sale of beef cattle than from the sale of corn. (T)

144. Dairying is more important in the Southwest than in the Northwest. (O)

145. Wisconsin is the leading dairy state. (T)

146. A cool climate is a handicap in the dairy industry. (O)

147. Dairy farmers produce large crops of hay. (T)

148. The chief dairy belt is located in the northwestern states. (O)

149. Good transportation is a special advantage enjoyed by the dairy farmers in the western states. (O)

150. A dairy farmer depends more on good transportation than does the cotton farmer. (T)

151. Minnesota is a leading state in the production of butter. (T)

152. Fresh milk is the leading dairy product from Wisconsin dairy farms. (O)

153. The supplies of butter and cheese in our large city markets come mainly from nearby dairy farms. (O)

154. Iowa leads in cheese production. (O)

155. More sheep are raised in the Central Lowlands than in any other area. (O)

156. Sheep do not thrive well in the eastern states because the climate is too moist. (T)

(continued on the next page)

The Mastery Test (continued)

157. Montana is the leading sheep raising state. (O)

158. In the United States there is a greater market for the meat of the sheep than for the wool. (O)

159. Merino sheep make better mutton than other breeds. (O)

160. Merino sheep were imported from Russia. (O)

161. Merino sheep thrive best in the Appalachian mountain pastures. (O)

162. Mohair is the fleece of Angora goats. (T)

163. The Edwards Plateau is famous for Angora goats. (T)

164. More hogs are produced in the dairy and hay region than in any other area. (O)

165. Corn Belt farmers find it more profitable to feed their corn to hogs than to sell it as grain. (T)

166. United States ranks low in hog production because there are so few areas where these animals thrive. (O)

167. Nearness to large city markets give the Corn Belt farmers their special advantage in raising poultry. (O)

168. Many poultry farms are located near large cities because feed is cheap in these areas. (O)

169. The United States farmer has always tried to keep his farmlands fertile. (O)

170. The United States government has financed flood control projects in an effort to increase the number of acres of good farm land. (T)

171. Unfertile farm lands can be quickly and easily restored with fertilizers. (O)

172. The individual farmer need not be concerned with the problem of conservation of farmlands, because the United States government assumes this responsibility. (O)

Report on the Teaching of the Unit

Preliminary explanations and directions.-- The unit on farming opened with a brief discussion of the clippings of magazine covers from "The Country Gentleman" magazine. These clippings illustrated various phases of farm life and types of farms in the United States. The pictures were arranged on the bulletin board. As they were discussed, the pupils volunteered information concerning the types of farming represented in each picture and the areas where this type of farming was carried on. The fact that United States has many different kinds of farms was established. The teacher then raised the question: To what extent does the United States farmer supply the food and raw materials needed by this great industrial nation? The pupils were then informed that the work for the month of May was to be a unit on farming in the United States and from their study they would be able to answer the question.

The study guide sheets were passed out with the explanation that the procedure for studying would be the same as it had been in January with a few exceptions. The pupils were allowed a few minutes to look over the sheets and to discuss their use, before the teacher explained the changes in procedure.

In the first unit the pupils had checked a chart (See page 66) to inform the teacher of their progress. In the

writer's opinion this practice, although enjoyed by the pupils, had encouraged superficial work and was a waste of the pupils' time because they had to wait to take their turns to get to the chart. To eliminate these difficulties and still have a check on the progress of each pupil during the work period, the writer planned more progress tests and work sheets which the pupils could complete and pass in for credit. It was therefore necessary to give the pupils a schedule for taking the tests. The pupils were informed that after completing activities one through five, Progress Test I could be taken. Progress Test II was to be taken after completing activities six through thirteen, Progress Test III, after completing fourteen through twenty-two, Progress Test IV, after completing twenty-five through thirty-three, and Progress Test V after completing thirty-four through forty-two. The pupils were advised to choose one of the groups, complete all the activities from the group, and then take the test.

The summary questions, one, nine, and twenty-three, were also designed to be a checking device. It was found necessary to require pupils to have their notes approved by the teacher before the summaries were written, because the pupils failed to understand the need for thorough preparation before writing their summaries.

These measures helped greatly to eliminate some of the guesswork and careless preparation on the part of some pupils.

They also gave the teacher a better basis for correcting faulty thinking and study habits as the pupils worked. These restrictions were resented by a few of the less conscientious pupils, but most of the pupils liked knowing their work was satisfactory as they went along. Their interest in this kind of activity is evidenced by the fact that most of the pupils chose either a work sheet activity or a summary as a beginning point and completed this kind of activity before they did the other work. Later, when the pupils were asked to evaluate their activities, the summaries and the work sheet activities were rated as the most interesting and worthwhile. (These facts are shown in tables 15, 16, and 17.)

The writer had observed during the teaching of the first unit that the pupils had paid little attention to additional references on the optional activities list. Therefore an attempt was made in the second unit to encourage additional reading by listing these references on the pupil's study guide and giving each pupil a mimeographed copy of the lists of references in the "Reader's Digest" and material in the file. The other optional activities were posted as before, and the pupil's attention called to them.

The circulation of reference books from the classroom library presented a greater problem during the teaching of the second unit. A possible explanation of this situation is that the pupils had enjoyed the experience of using more

than one book to prepare their lessons, and had found certain books more interesting than others, and were aware that these books were hard to get because there were not enough to go around. Their impulse was to rush to the library and get the books they wanted first, and to ignore the references in their own textbook. Consequently the library rules had to be revised. The alphabetical arrangement was abandoned as impractical. So many of the books were in circulation during a class period, few were left for the alphabetical arrangement, and when the books were returned there was not time to sort and arrange them. The staff of librarians was increased from three to six. One pupil served as the head librarian, helping whenever necessary and "supervising" the other five who were assigned a different day of the week. The girls made better librarians than the boys in that they talked softly and took more responsibility in keeping the books orderly on the shelves.

After some trial and error, the following rules were established and proved fairly satisfactory. The handicap of having too few copies of some of the most helpful books was not entirely overcome, however.

Library Rules

1. When you borrow a book, sign the card and leave it with the librarian. The book is due in three days, but may be returned sooner.

(continued on the next page)

Library Rules (continued)

2. You may reserve a book by writing a request for it and leaving it with the librarian.

3. When returning a book, leave it on the librarian's desk. Do not return it to the bookshelf yourself.

4. Books taken for a three-day period are to be returned before school on the morning of the third day.

5. Books used during the class period are to be returned five minutes before the passing bell.

6. No pupil is to borrow more than two books at a time from library without permission from the teacher.

7. No pupil is to exchange books more than twice during the class period without permission from the teacher.

8. No more than three pupils are to be at the librarian's desk during the class period.

Librarian's Duties

1. See that the library rules are carried out.

2. Keep the record of who has borrowed books and when they are to be returned by filing the book cards.

3. Keep the library shelves in good order.

4. Return the proper record card to the book pocket as the borrowed book is returned. Return the book to the bookshelf.

5. Distribute reserved books as soon as possible.

6. Report any damage to books to the teacher.

7. Be on duty fifteen minutes before and after school and during the class period.

Borrowed library books were also permitted to be circulated during the class period with the pupil who had originally borrowed it from the library held responsible.

The vocabulary test.-- The vocabulary test on page 111 was given as part of the introductory activities for two reasons: (1) to find out which of these words and phrases had little or no meaning to the pupils and (2) to direct the pupils' attention to these words and phrases. These twenty words and phrases were selected because in the writer's experience with this same subject matter they have needed explanation. After administering and scoring the test, the papers were returned to the pupils with the comment that they, as they worked on the unit assignment, should try to find meanings for all the words which they had failed. No further instruction was given, but the same test was administered as part of the final mastery test. The second testing revealed that some gain had been made in vocabulary knowledge. When the test was given as a pre-test, the scores ranged from 13 to 3 words correct with a middle score of 7. The range of scores for the second testing was from 17 to 4 with a middle score of 10. The actual gain is shown more clearly in Tables 12 and 13 on the next page. The pupils who made no gain represent a group which had shown careless and superficial preparation of other unit activities, or were knowned to be handicapped in reading comprehension. The writer observed that, in general, the pupils exhibited the least interest in activities which had been designed to build vocabulary. Since some of the pupils worded their definitions ambiguously,

their scores were lower than they might have been if the test was more objectively constructed. However, the writer had purposely avoided making this test more objective in form to eliminate guesswork on the part of the pupil and because so few words were included in the test.

Table 12. A Comparison of the Pre-Test Scores With the Final Test Scores on the Vocabulary Test.

Vocabulary Words Tested	Pre-Test Scores: Number of Pupils with Correct Meaning	Final Test Scores: Number of Pupils with Correct Meaning
livestock	34	30
harvest	34	33
truck farm	27	20
irrigated farm	27	25
growing season	25	1
cultivate	24	16
boll weevil	24	35
market gardening	17	14
delta	15	25
crop rotation	15	24
sorghum	14	12
erosion	13	19
farm cooperative	8	7
mohair	4	29
mature	4	11
ensilage	4	11
extensive farming	4	14
intensive farming	3	11
sediment	1	4
durum	0	30

their scores were lower than they might have been if the test
was more objectively constructed. However, the writer had
purposely avoided making this test more objective in form
to eliminate guessework on the part of the pupil and because
no textbooks were included in the test.

Table 13. Vocabulary Achievement of 37 Pupils Based on the Difference of Two Test Scores

Gains and Losses in Number of Words Right	Number of	Gains and Losses in Number of Words Right	Number of Pupils
-3	3	3	3
-2	0	4	6
-1	5	5	7
0	4	6	0
1	1	7	0
2	6	8	1
		9	1

Special study guides and progress tests.-- According to the comments of the pupils, the special study guides and progress tests were interesting, helpful, and not too difficult. Since the pupils were allowed to choose their own time for completing these assignments, and the writer desired to keep a check on their progress in order to prevent careless preparation, a record sheet was made for each of the five tests and the two study guides. On these record sheets the pupils' names were listed alphabetically in a vertical column at the left side of the sheet, and the numbers of the test items and exercises were listed horizontally across the top of the sheet. As the pupils turned in the completed assignments, a record of their work was made by marking each item right, wrong, or omitted. This device not only aided the writer in discovering weak points in the unit assignment, the tests,

and study guides, but also helped to discover the individual pupils who needed special guidance in preparing their work and assuming the responsibility of completing the assignments in the allotted time. By the end of the second week of the laboratory period, the writer found it necessary to set definite dates for the completion of these assignments. During the third week, individual pupils who had not planned their work well were given daily assignments. The record sheet revealed the necessary revisions to be made on the progress tests, study guides, and unit assignment. Such revisions consisted of adding words or phrases to clarify the meaning of the test items, adding more references to the study guides, and rewording and adding more questions to the unit assignment.

The mastery test.-- The mastery test consisting of 172 true-false test items was given not only to the experimental group, but to the other two seventh-grade classes as well. These classes had studied the same unit from the single textbook for the same period of time, but with day-to-day assignments rather than a unit assignment. Each pupil had a mimeographed copy of the test. No directions were given as to how to take the test other than those printed on the test itself.

The pupils were asked to indicate how long it took them to complete the test. The procedure was explained to them before they started on the test. After the first ten minutes,

the teacher wrote on the blackboard at intervals of five minutes, the number of minutes which had elapsed since the test had started. As the pupils finished, they looked at the blackboard to find the number of minutes and then wrote that number in a box on the first page of the test. Thus it was found that in order to give the slowest pupils enough time, 45 minutes are needed to administer such a test. The distribution of the time needed for this test is shown in Table 14 below.

Table 14. Distribution of Time Required for 108 Pupils to Take the True-False Mastery Test

Number of Minutes	Number of Pupils
0-15	1
16-20	7
21-25	33
26-30	25
31-35	24
36-40	14
41-45	4

The pupils in the experimental group were asked to give reasons why they liked or did not like the final test. Since this was their second experience in studying by the unit method and they had become accustomed to offering opinions and suggestions, they proceded to write their comments in a very businesslike and frank manner. These opinions are summarized in the chart on the next page.

A Summary of the Pupils' Comments About the Mastery Test

Pupils' Comments	Number of Pupils With Same or Nearly Same Idea
I liked this test because:	
It was not too hard and not too easy.	15
It was easy.	6
It was easier than I expected.	1
It was a true-false test.	7
There were no words to write.	4
There was a fifty-fifty chance of getting the right answer.	2
It was all one kind of direction.	2
It was easy to understand.	2
It was easy if you did your activities.	2
There was a box for each answer.	2
You did not have to look for words.	1
It was something you couldn't just run through. You had to think about it before you answered.	1
I did not like this test because:	
It was too easy.	1
It was too long.	2
Some questions were catchy.	2
Some questions were phrased so that I couldn't understand them.	1
There are no special reasons why I did not like the test.	17

After the test items were scored, a chart for studying the individual growth of the pupils of the experimental group and the test items was made. The beginning and end

Pupils' Comments	Number of Pupils with Same Idea or Nearly Same Idea
I liked this test because:	
It was not too hard and not too easy.	10
It was easy.	5
It was easier than I expected.	3
It was a true-false test.	2
There were no words to write.	4
There was a fifty-fifty chance of getting the right answer.	3
It was all one kind of direction.	2
It was easy to understand.	2
It was easy if you did your activities.	2
There was a box for each answer.	2
You did not have to look for words.	1
It was possible you couldn't just run through. You had to think about it before you answered.	1
I did not like this test because:	
It was too easy.	3
It was too long.	2
Some questions were catchy.	1
Some questions were phrased so that I couldn't understand them.	1
There are no special reasons why I did not like the test.	17

segments of this chart are included in the Appendix. This chart revealed that 60 items were correctly scored by 30 or more pupils. Many of these items, like number 145, were factual statements based on the points in the delimitation of the unit and consequently indicated that the pupils had mastered these facts. However, to make the test a little more difficult, it was revised. Some of these items were eliminated and others substituted. Other items were reworded to include more detail or to express the idea in a different way. There were also 5 items which were failed by over two thirds of the class. Since these test items involved information that the pupils should have known if they had prepared certain unit activities, the writer questioned the pupils and found that they had not done these assignments. Since the test was constructed so that items 1 through 17 tested the knowledge of point 1 on the delimitation of the unit, 18 through 57, point 2, 58 through 93, point 3, 94 through 109, point 4, 110 through 136, point 5, 137 through 168, point 6,and 169 through 172, point 7, it was possible to analyse sub-total scores on these parts of the test and find which of the topics had been neglected and which had been well prepared. This analysis revealed that there was more superficial preparation of the activities for points 5, 6, and 7 than for the activities on the first part of the unit assignment. When questioned, some pupils frankly admitted

that they did not do these activities because they did not have time. They stated that they did not have time because they left too much work to do at the end of laboratory period and then could not obtain the books they needed. Although the writer had observed this situation developing and had remedied it to a certain extent with the special assignments and progress tests, these facts give evidence of the difficulty in getting pupils to understand their responsibilities in preparing their work and planning their time well, especially in a situation where they expect continual direction from the teacher in all and every part of their tasks.

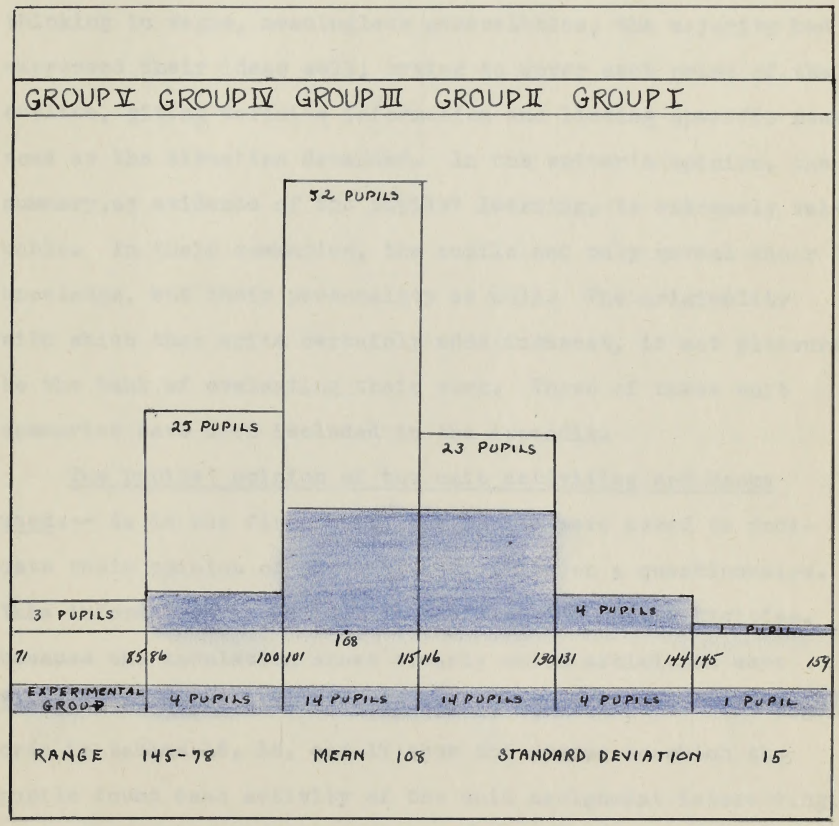
In spite of some superficial preparation on the part of some of the pupils, the experimental group showed the greatest achievement in the relative growth scale constructed from the results of the mastery test. This scale is on page 149.

The unit summaries written by the pupils.-- That these pupils were well informed and had made satisfactory progress was further evidenced by the unit summaries which they wrote in one class period with no reference to notes, except to be guided by the outline in activity number 44. This summary probably represented the longest piece of composition work in their experience and they handled it remarkably well. One pupil's summary was over 500 words long and included 45 of

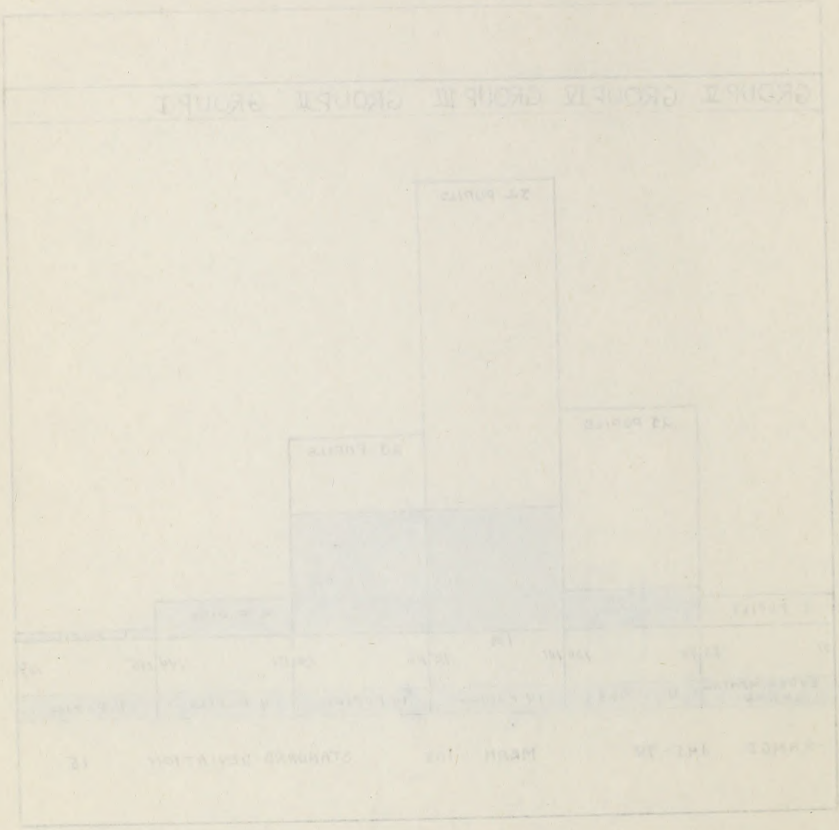
(continued on page 150)

(continued on page 150)

A Relative Growth Scale for 108 Seventh-Grade Pupils Based on Their Scores on the Mastery Test for the Second Unit*



* Two pupils entered this seventh-grade class in the second term, making the enrolment 108 instead of 106 as reported in Chapter 2.



the ideas mentioned in the delimitation of the unit. Most of the summaries were from 200 to 300 words long and included from 25 to 40 of the ideas stated in the delimitation. Although a few pupils gave evidence of confused thinking, or thinking in vague, meaningless generalities, the majority had expressed their ideas well, trying to cover each point of the outline, giving definite information and listing specific reasons as the situation demanded. In the writer's opinion, the summary,as evidence of the pupils' learning, is extremely valuable. In their summaries, the pupils not only reveal their knowledge, but their personality as well. The originality with which they write certainly adds interest, if not pleasure, to the task of evaluating their work. Three of these unit summaries have been included in the Appendix.

The pupils' opinion of the unit activities and books used.-- As in the first unit, the pupils were asked to indicate their opinion of the unit activities on a questionnaire. This information is helpful in revising the unit activities, because the tabulation shows clearly which activities were found to be especially uninteresting, or difficult. The figures in tables 15, 16, and 17 show the degree to which the pupils found each activity of the unit assignment interesting, and whether or not they thought the activity was worthwhile or difficult. It is interesting to note that by far the most worthwhile and interesting activity in the pupils' opinion is

the summary at the end of the unit, although they consider it to be difficult.

After the unit work had been concluded, the pupils were also asked to list the five books they considered to be the most interesting, five books they thought were the easiest reading, and the five books they considered to be the best references or sources of information. When this information was tabulated for Table 18, three significant facts were noted, (1) that several books were favored above all the others, which supported the writer's previous conclusion as to the cause of difficulty in distributing the books during the study of the second unit, and (2) that the pupils had read rather extensively in their preparation of the unit activities, and (3) that some books had little or no appeal. This information will be helpful when ordering more supplementary books for the classroom library.

Table 15. Pupil Interest in Core Activities as Reported on Questionnaire*

Number of the Activity	Number of Pupils Reporting Activity As Very Interesting	Number of Pupils Reporting Activity As Interesting	Number of Pupils Reporting Activity As Boring, Tiresome
1.	11	23	2
2.	2	29	5
3.	12	21	3
4.	10	15	11
5.	8	21	7
6.	23	11	2
7.	13	18	5
8.	12	20	4
9.	19	12	5
10.	11	20	5
**11.	10	19	6
12.	18	13	5
13.	15	18	3
**14.	8	20	7
**15.	10	15	10
**16.	8	22	5
17.	7	24	5
18.	15	15	6
19.	17	12	7
20.	15	19	2
**21.	5	23	7
**22.	12	18	5
23.	20	12	4
**24.	10	20	5
25.	10	22	4
**26.	10	24	1
27.	17	17	2
28.	13	20	3

* 1 pupil did not return questionnaire.

** This item not marked by all 36 pupils.

(continued on the next page)

Table 15. (concluded)

Number of the Activity	Number of Pupils Reporting Activity As Very Interesting	Number of Pupils Reporting Activity As Interesting	Number of Pupils Reporting Activity As Boring, Tiresome
**29.	8	23	4
30.	15	16	5
31.	14	20	2
32.	13	20	3
33.	13	20	3
34.	9	27	0
35.	15	19	2
36.	15	18	3
37.	6	28	2
38.	12	22	2
39.	9	24	3
**40.	13	14	8
**41.	6	19	2
42.	15	15	6
**43.	18	12	5
44.	25	6	5

Table 16. Pupil Attitude As to Whether the Core Activities Were Worthwhile Based on Questionnaire Report*

Number of the Activity	Number of Pupils Reporting Activity Worthwhile, Useful Information	Number of Pupils Reporting Activity To Be of Some Value	Number of Pupils Reporting Activity As Time Wasted
1.	30	6	0
2.	13	20	3
**3.	15	16	4
4.	15	15	6
5.	15	18	3
6.	29	7	0
7.	18	16	2
**8.	17	16	2
9.	23	10	3
10.	15	17	4
11.	15	15	6
12.	15	18	3
13.	17	17	2
**14.	11	18	5
**15.	14	15	6
**16.	16	16	2
17.	14	18	4
18.	20	15	1
19.	23	8	5
20.	20	15	1
21.	14	15	3
22.	12	18	5
**23.	25	8	2
24.	15	18	3
**25.	18	16	0
**26.	17	16	2
**27.	20	13	2
28.	14	16	6

* 1 pupil did not return questionnaire.

** This item not marked on all 36 questionnaires.

(continued on the next page)

Table 16. (concluded)

Number of the Activity	Number of Pupils Reporting Activity Worthwhile, Useful Information	Number of Pupils Reporting Activity To Be of Some Value	Number of Pupils Reporting Activity As Time Wasted
**29.	14	18	3
**30.	15	18	2
31.	16	14	6
32.	22	13	1
33.	20	14	2
34.	17	19	0
35.	21	15	0
36.	22	13	1
37.	15	18	3
38.	16	18	2
39.	15	19	2
**40.	19	13	3
**41.	16	14	0
42.	16	17	3
**43.	21	10	5
**44.	27	5	3

Table 17. Difficulty of Core Activity Items As Reported by Pupils on Questionnaire*

Number of the Activity	Number of Pupils Reporting Activity Easy	Number of Pupils Reporting Activity Difficult	Number of Pupils Reporting Activity Very Difficult
1.	10	24	2
2.	18	14	4
3.	29	7	0
4.	14	21	1
5.	18	15	3
6.	16	19	1
7.	17	17	1
8.	20	14	2
9.	10	20	6
10.	29	6	1
11.	27	9	0
12.	21	14	1
13.	19	16	1
**14.	12	20	3
15.	30	6	0
**16.	18	16	0
17.	18	17	1
18.	20	14	2
19.	16	14	6
20.	23	11	1
21.	28	8	0
**22.	16	17	2
23.	5	22	9
24.	21	15	0
25.	22	14	0
26.	20	14	1
27.	19	14	3
28.	26	9	1

* 1 pupil did not return questionnaire.

** This item not marked on all 36 questionnaires.

(continued on the next page)

Table 17. (concluded)

Number of the Activity	Number of Pupils Reporting Activity Easy	Number of Pupils Reporting Activity Difficult	Number of Pupils Reporting Activity Very Difficult
29.	15	20	1
30.	16	18	2
31.	20	12	4
32.	18	16	2
33.	17	19	0
34.	20	16	0
35.	25	10	1
36.	15	18	3
37.	26	10	0
38.	21	15	0
39.	23	10	2
**40.	29	6	0
**41.	18	12	1
42.	22	11	3
**43.	9	21	5
**44.	2	23	10

Table 18. How Pupils Rated the Books Used to Study the Units

Number of the Book*	Number of Pupils Rating Book As Easiest Reading	Number of Pupils Rating Book As Most Interesting Reading	Number of Pupils Rating Book As Best Reference
1.	4	1	4
2.	15	17	15
3.	0	4	3
4.	0	1	0
5.	5	6	9
6.	0	0	0
7.	23	21	30
8.	3	8	4
9.	12	12	5
10.	4	4	3
11.	0	2	0
12.	19	10	14
13.	1	0	0
14.	1	0	1
15.	0	1	0
16.	8	2	3
17.	0	0	0
18.	1	1	0
19.	2	1	0
20.	0	0	0
21.	0	2	0
22.	0	0	0
23.	20	7	10
24.	2	3	5
25.	1	1	0
26.	0	0	0
27.	1	3	3
28.	5	5	3
29.	3	6	2
30.	1	1	0
31.	3	1	0
32.	0	1	0

* See pages 58-61 for titles, authors, and publishers.

(continued on the next page)

Table 18. (concluded)

Number of the Book*	Number of Pupils Rating Book As Easiest Reading	Number of Pupils Rating Book As Most Interesting Reading	Number of Pupils Rating Book As Best Reference
33.	7	6	2
34.	5	7	0
35.	8	10	10
36.	11	11	10
37.	0	0	0
38.	0	0	0
39.	0	0	0
40.	0	0	0
41.	0	0	0
42.	0	0	0
43.	5	5	7
44.	1	6	10
45.	0	0	0
46.	2	4	8
47.	15	15	21
48.	0	0	1

* See pages 58-61 for titles, authors, and publishers.

CHAPTER IV

THE ADVANTAGES AND DISADVANTAGES OF UNIT TEACHING IN A SITUATION WHERE A SINGLE TEXTBOOK IS THE COURSE

In introducing the unit method into a single textbook course, the writer experienced numerous difficulties. Some of these problems were eventually solved, but others proved to be beyond solution, at least during the period that the experimental teaching took place. However, so many of the difficulties were balanced by improvements, that the writer considers the experience to have been very worthwhile. In the following paragraphs the advantages and disadvantages of applying the unit method to a teaching situation such as is described in the first chapter of this paper is discussed.

As the writer observed the pupils at work during the teaching of these two units, their attitude was one of genuine interest. That, in the writer's opinion, is the chief advantage of unit organization. The pupils enjoyed knowing what work was to be done and how long they had to spend on the task. They enjoyed choosing the tasks to be performed. One pupil's comment, "I like this way of studying because [the teacher doesn't] dictate to us and tell us just what to do, and I figure my time is my own as long as I get the assignments done." is quite significant, if the pupil's choice

of the word "dictate" is given any thought. The establishment of a better teacher-pupil relationship would then seem a possible advantage of unit teaching.

The pupils enjoyed reading many books and having an opportunity to study more pictures, charts, maps, and graphs than could ever be presented in a single textbook. As the writer watched them study, more purposeful reading, and critical evaluation of the information, and more concentrated effort was exhibited than had been previously observed. Thus the study situation in which the pupils are presented with their assignments in the form of a written study guide is helpful in improving the study habits of the pupils. Not only did the reading habits improve, but the quality of the written work as well. Because there were fewer written papers, most of the pupils took time to write carefully. Because the written work represented a more important task than the ordinary day-to-day assignment, more thought was given to the preparation of it. It was easier also for the teacher to require higher standards of written work and do more individual corrective work.

Another advantage of unit organization is the opportunity it gives for the guidance of individual pupils. As the pupils work on the unit assignment they reveal their different traits of character and the degree to which they have mastered the fundamental knowledge the teacher usually assumes has been learned in previous grades. Although these individual differ-

erences can be observed in any teaching situation, unit organization gives far more opportunity for such observation than other methods experienced by the writer. Particularly outstanding were the pupils who were at the extremes. Those who were really poorly prepared in the fundamentals of reading, both in comprehension and technical skills, and were lacking in the ability to express their ideas in writing and orally, were greatly handicapped. On the other hand, the unit assignment was a challenge to the superior pupil. These pupils with ability, especially if they were conscientious, accomplished far more than they would under other kinds of organization, because their opportunities were unlimited. Some of the superior pupils, however, had deeply established habits of laziness due to their ability to attain satisfactory achievement in the usual day-to-day assignments with little or no effort. These pupils did not do so well with the unit assignment at first, because they failed to undertake the responsibility of completing the work and assumed the assignment to be much easier than it really was. This type of pupil made a better adjustment during the teaching of the second unit. In the writer's opinion, the unit method is superior to others for organizing work for pupils with better-than-average ability, because they are not held down to a level of work which they find unstimulating and uninteresting.

Still another advantage of teaching by the unit method

is the satisfaction the teacher has in having definitely stated aims and watching the pupils gradually develop the ideas that she wants them to have. There is also satisfaction in having prepared a test which really measures the growth of the pupils. The writer is aware that the practice of stating aims and diagnostic testing are not just teaching devices used in the unit method. The greater satisfaction comes from the fact that their application in the unit method requires more careful planning and justification.

Teaching by the unit method also gives more opportunity for teacher growth. The teacher must have a better grasp of the subject matter in order to arrange a good unit. "Knowing" the pupil is especially important in unit planning. The unit method gives more opportunity for the teacher to know and study the pupils. Success in the management of the classroom depends on a teacher's resourcefulness and ability to organize, and her alertness to impending difficulties. In unit teaching, therefore, a teacher has little opportunity to get into the rut of indifference which can come from routine classroom teaching.

Another advantage of teaching by this method lies in the ability of the pupil who has been absent from school to make up work without being too greatly handicapped by absence from class discussions and without being an extra burden to the teacher who must plan his make-up work. During the teaching

of the first unit, four pupils of the experimental class were absent during most of the laboratory period. These pupils made up some of their work at home by having their classmates bring books to them, and the rest of the assignment was completed in their study periods when they returned to school. They were ready for the mastery test within a week after the class had finished the unit. Test results showed their achievement to be as satisfactory as that of the pupils who had not been absent. In fact, one boy's work was better than he had ever done previously.

The chief disadvantage in teaching by the unit method in a situation where a single textbook has been the course concerns the lack of material for unit teaching and the difficulty of obtaining enough materials to teach a unit successfully. These problems are so numberous and so involved that the teacher is likely to be discouraged from attempting to organize the work into units. Time is the most important factor to be considered. Expense to the school department is another.

Plans for obtaining the needed materials must be made well in advance of the teaching of any unit. A good supply of reference books is a prerequisite, but they are difficult to obtain in a situation where a single textbook is the course, particularly if the administration does not understand and appreciate the use and need for such supplementary

books. The writer began to request supplementary books a year in advance and received part of the books requested at that time. Another order was approved in September of the school year in which the units were to be taught. However, this order was not placed immediately and the books were not received until the following January. Three books did not arrive until March.

Fortunately the social studies teacher who wishes to organize her work according to the unit plan does not have to depend entirely on purchases of new supplementary books by the school department. Much supplementary material can be found in current magazines and commercial publications. The sources of magazine material that were found useful for the units this paper concerns are indicated in the Appendix, and the method of clipping and organizing the material is described on pages 43 through 46. Needless to say, such preparations require hours of work. Much of the commercial material is difficult to use at the seventh-grade level because of the technical vocabulary it contains. However, some of this material was found to be useful. This is listed on page 62.

Changes in the classroom must be made to accomodate the supplementary materials and arrange them so that the pupils have easy access to them. In this matter the teacher again encounters problems which can best be solved cooperatively

with the administration. Lacking that cooperation, the teacher must resort to make-shift arrangements.

Facilities for duplicating must be considered also. If, as in the writer's case, these facilities are inadequate, they add an extra burden to the work of preparing for unit teaching.

Gathering supplementary material is only part of the problem. When the course is a single textbook, more difficulties arise when an attempt is made to organize the material into a logical, well-constructed unit. The information is either too meagre or irrelevant to the points the teacher would like to establish. The material may not be intrinsically interesting to the pupils who are to study it. The purpose of the supplementary material is, of course, to provide the needed information, but in the organization of the unit, the writer must also consider how many pupils will have access to this material. If, for example, one book contains the information the teacher is looking for to establish a particular point, it is not practical or fair to expect thirty-seven pupils to get that point from a single copy of the book.

Other disadvantages of unit teaching arise from pupil maladjustment to the unit assignment. These disadvantages perhaps apply more to grade seven than to the advanced secondary levels, and more to a situation in which pupils have

not had much opportunity to study independently than one in which more progressive methods of teaching are the customary procedure. Since the writer's pupils were accustomed to having work assigned orally, read and discussed orally, and had come to rely on hearing right answers from their classmates and teacher, these pupils were not in the habit of taking the initiative and responsibility of getting information for themselves and following written directions. Possible causes of maladjustment have to be considered when the unit is planned in order to avoid the chaotic classroom situation which is likely to occur if these difficulties are not anticipated. The writer found it necessary to be very specific in giving directions and asking questions. Questions of a problem-solving nature were above the level of these pupils if they involved much detailed information, because the pupils were used to having a teacher lead their thinking. For example, typical answers to an intended problem question like, "Why is the United States a rich country?" might be, "I think the United States is a rich country because she has so many things that a country needs." or "The United States is a rich country because it has everything it needs and more." To prevent such superficial answers, it was necessary to prepare other questions which would direct the pupil's attention to the detailed information needed for a satisfactory answer.

Otherwise, the pupils considered the activity finished and proceded to work on another. The writer attributed much of the superficial preparation of the activities to the fact that the pupils were not in the habit of reading for information, interpreting printed material, and retaining ideas. Consequently much more detailed planning was necessary than if independent study habits and simple methods of research had been introduced earlier in the pupil's experience.

Some maladjustment of the pupils came from their misuse of the freedom permitted them in choosing their tasks. They did not plan wisely and assume the responsibility of completing their work. A few were always ready to take advantage of their freedom to move about the classroom. The classroom situation where books are being circulated among the pupils presents discipline problems not encountered in the formal situation. The writer found it practical to permit the pupils to communicate with each other as long as the conversation remained on a businesslike basis. This situation required more alertness to pupil behavior in order to prevent trouble and waste of time, but for the most part proved to be very satisfactory.

The advantages and disadvantages of the unit method as experienced by the writer proved to be as follows:

The unit method

(1) creates a genuine interest on the part of the pupil.

(continued on the next page)

(2) establishes more friendly pupil-teacher relationships.

(3) gives a greater opportunity for developing better study habits.

(4) permits individual guidance and corrective work.

(5) offers more opportunities to the superior pupil.

(6) gives greater teaching satisfaction to the teacher.

(7) promotes teacher growth.

(8) removes the handicap of absentees in making up their work.

However, the unit method

(1) requires much more of the teacher's time.

(2) involves more expense to the school department when iniated.

(3) encourages superficial work if not planned to suit the needs of the pupils concerned.

(4) encourages discipline problems if not carefully planned to eliminate such difficulties.

APPENDIX

Summaries Written by the Pupils for Unit One

The following summaries written by three pupils of the experimental group include (1) an example of one of the best papers, (2) an example of an average paper, and (3) one of the poorest papers. No corrections in spelling or punctuation have been made. These papers were judged for their informational content and not knowledge of written English.

1. The United States Is One of the Richest Nations of the World

The United States is the fourth largest country in the world and it covers one twentieth of the land surface of the world. The United States is divided into natural regions of which there are four main ones and many lesser ones. The Atlantic and Gulf Coastal Plains are one. The Appalachian Highland is divided into the Piedmont Plateau, the Appalachian Mountains and the Appalachian Plateau. The Great Plains, the Central Lowlands, the Laurentian Upland, and the Ozark Plateau are all regions of the Interior Plains. The Western Highlands contain the Rockey Mountains, the Great Baisen, the Colorado Plateau, the Columbia Plateau, the Pacific Mountains and Valleys and the Baisen Range.

The natural resources consist of many different types of minerals. Petroleum which is taken out of the ground is drilled in large quantitys in the U.S. Coal is one of our most important resources and is mined chiefly in the Appalachian Mt. We have much water power in the west that has not been put to use. Forests covered about ½ of our country when the pilgrims landed but have diminished too about 20% of the U.S.

The U.S. has many manufacturing plants all over the country. These plants are mostly where labor is plentiful and cheap and power plentiful. We produce many products such as plastics, pots and pans, tables, chairs, dishes, and many other things. (continued on the next page)

Summaries Written by the Pupils for Unit One (continued)

The United States has a climate called energizing. It is a climate in which people like to work. We live in the Temprate Zone and the normal temprature should be between 32° and 64°.

The people have much ingenuity. We are a collection of people whose ancestors came from nearly every country in the world. The American People have learned that they must work together to preserve the nation.

2. The United States is the fourth largest country in the world. Only Russia, Brazil and Canada are larger. The United States covers 1/20 of the world's surface.

The United States has four great natural regions. Each of these regions is divided into many subdivisions. These subdivisions have a different type of soil than the main part. Thus these regions produce a great variety of crops and products.

America has an abundance of natural resources derived from mines, quarries, etc. There are large supplies of iron ore, copper, zinc, coal, and petroleum. Many waterfalls and streams provide power to generate electricity.

The U.S. is one of the leading man ufacturing countries in the world. We manufacture rubber tires, cereals, paper, and woolen clothing without which many of the luxuries of life could not be enjoyed.

The United States is in the temperate zone. We have a variety of climate, rainfall, and temperature conditions. A climate related to any European nation can be found anywhere in the United States. The American people are very energetic due to the climate. They are very ingenious and are willing and able workers.

3. The United States is the fourth largest country in the world and its area is 3 million square miles. The soviet union is the largest Canada is second Brazil is third and the United States is fourth

The United States is a wealthy nation because of its minerals and products zinc iron silver gold copper and tin

(continued on the next page)

Summaries Written by the Pupils for Unit One (continued)

are some of the United States minerals The Great Plains and the Central Lowlands are important Natural resoures in the United States the United States also has a good rainfall. that help the soil more better for planting.

Summaries Written by the Pupils for Unit Two

The following three summaries include (1) the paper of the pupil who ranked highest on the mastery test, (2) the paper of the pupil who ranked seventh on the mastery test, and (3) the paper of the pupil who ranked thirty-first on the mastery test. This last paper was considered poor by the writer because it is too highly generalized. However, it is a good illustration of the level of thinking that is exhibited by many seventh-grade pupils who have not had much training in reading for information and retaining the ideas. No corrections in punctuation and spelling have been made by the writer. Rather they are copied, as written by the pupils.

1. The United States, A Leading Agricultural Nation

Things which have made this country a great farming country are the government which helped the farmer make better crops; modern machines which help to do the work faster, and the people which try to do their best work on the farm.

Corn is grown from Ohio to Kansas. This area grows much corn for reasons that this land is level, fertil, and has abundant rainfall. Machines may be run because of its level.

Wheat is another cereal crop which is grown from Mon-

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Summaries Written by the Pupils for Unit One (continued)

are some of the United States minerals. The ocean floors and the Central lowlands are important because in the United States the United States also has a good variety that help the soil here before for planting.

Summaries Written by the Pupils for Unit Two

The following three summaries include (1) the paper of the pupil who ranked 1st best on the mastery test, (2) the paper of the pupil who ranked seventh on the mastery test, and (3) the paper of the pupil who ranked thirty-first on the mastery test. This last paper was considered poor by the writer because it is too highly generalized. However, it is a good illustration of the level of thinking that is exhibited by many seventh-grade pupils who have not had much practice in reading for information and retaining the ideas in connections in punctuation and spelling have been made by the writer. Neither they are copied, as written by the pupils.

1. The United States, A Leading Agricultural Nation

Nations which have made this country a great farming country are the government which helped the farmer make better crops; modern machines which help to do the work faster, and the people which try to do their best work on the farms.

Corn is grown from Ohio to Kansas. This area grows much corn for reasons that this land is level, fertil, and has abundant rainfall. Machines may be one because of its level.

Wheat is another cereal crop which is grown from Ken-

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Summaries Written by the Pupils for Unit Two (continued)

tana to North Dakota. Then from there southward to Texas. Wheat is grown here because it level and machines can help do work. The land is fertile, and rainfall comes in the spring and not at the harvest time.

Rice is another cereal crop. It is grown in Arkansas, Louisiana, Texas, and California. The crop is planted here because it needs much water. Rice in this country it is grown and it is harvested by machines and not by hand like in Japan.

The most important vegetable is the potato. The place which leads in this industry is Maine. Tomatoes, sweet corn and many other vegetables are raised in Atlantic Coastal plain because rich sandy soil. Flordia and California raise winter vegetables for the North.

Apples is the most important fruit. It is grown in all the states but the important are around the lakes, around the slopes of mountains and in irrigated lands in the west. New York has many apple trees. Oranges are important citrus fruit. They are in California and Flordia. California raise more oranges than any other states. Flordia is important in grapefruit industry. Grapes are found in Michigan and California. California is a great grape dring state.

The United States grows some sugar. The sugar comes from the cane and beet. Sugar cane is grown in Arkansas, Mississippi and Louisiana. Louisiana leads in raising cane because it is grown on a delta which has rich soil. Sugar beet is grown in the Great Plain. The beet must have much hand labor so it is not grown in large sumes. (quantities)

Tobacco was brought over to this country by early settlers. It is important from Virginia to South Carolins.

Stockraising is done in three areas. They are, Corn Belt, Cotton Belt, and the dry lands of the west. They raise in Corn and Cotton Belts so they can be fatten for market. They are raised in dry lands to be grown then they are sent to the Corn Belt to be fatten.

Dairying is done mostly in Northeastern part of the country because there are more population there. Wisconsin leads in dairying. Machinery has helped the dairying industry because before they could not transport the products

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Summaries Written by the Pupils for Unit Two (continued)

long ways but now it can do that.

Trade among ourselves and other countries is very important. We get things from other countries that we don't have and we sell them products.

The farmer is faced with many different kinds of problems such as wasted farm land, erosion, insects, dry climate and unfertile soil. Such problems he is trying to overcome.

2. The United States, A Leading Agricultural Nation

The United States ranks first as an agricultural nation. She has this rank because of the fine fertile soil, the use of modern machinery, the scientific study of crops and the careful selection of seeds, the sunshiny weather and the abundance of rainfall. Rural-free delivery, telephones, and radios all help this nation.

The United States farmer grows a variety of crops. Among these are corn from the Corn Belt, wheat from the Wheat Belt, oats from the Corn Belt, and states bordering it, barley from Nebraska, Iowa, and other states around there, rye from No. and S. Dakota, Nebraska, Iowa and other states and rice from Louisiana, Texas, and Mississippi. All these crops are grown by modern machinery. They are extensively cultivated. The wheat has two families the spring wheat and winter wheat. The spring wheat is planted in the spring and harvested around August. The winter wheat is planted in autumn and harvested in June or July.

The fruit grown in the United States is plentiful. The most important fruits are apples, oranges, grapefruit and grapes. Apples are grown in the Appalachian Highlands, and Washington. Oranges are grown mostly in California. Grapefruit are important in Florida. Grapes are grown in California and around Lake Erie.

Fruit have a good growing season, abundant rainfall and fertile soils. Most of the fruit is grown by extensive farming methods but some is grown by intensive methods.

The United States has a lot of animals. Cattle, hogs, sheep and goats are the most common. Cattle and hogs are

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Summaries Written by the Pupils for Unit Two (continued)

grown in the Corn Belt where one fourth of the corn is for animals to feed on. They are raised on this until they become big and fat and then they are shipped to the slaughter house. Sheep are raised on the Western Range. Cattle can not be raised there because it is too dry. Where sheep can go with less water and grass than cattle, they can live there. Goats are raised on the Edwards Plateau in Texas. Here they raise Angora Goats.

The dairying section of the United States is in the northeastern part. Here the land is rich and fertile. The temperature is cool. They are near large cities where the milk and products can be sold.

Tobacco is raised in the South where the rich soils, right amount of rainfall help it.

Cotton is raised in the South. It is steadily moving westward. The fine fertile soil, the right amount of rainfall and the good growing season help this crop to grow well. Cotton is picked by the new invention of the cotton picking machine.

Sugar is raised in the Southern and northwestern parts of the United States. Cane sugar is not grown as much as beet sugar because cane sugar has to have a certain kind of climate and soil to grow.

Vegetables are grown in mostly any part of the United States. Potatoes are the most important. Aroostook County raides the most.

The United States helps supply many nations with the food, vegetables, fruits and such that they need. It ranks first in trade.

The American Farmers are trying to overcome a few things to make the United States a much better agricultural nation. Among these are : How to get rid of the insect pests that spoil many crops. Another is: What to do with lands that can't be used for farming.

(continued on the next page)

3. The United States, A Leading Agricultural Nation

The United States leads first in agriculture.

There is a variety of crops grown in the United States such as, sugar, cotton, wheat, tobacco, rye, barley, rice, oats, apples, grapefruit, grapes, oranges, carrots, potatoes, onions, and many other things.

Most of these crops are grown in the Central States, but some of them are grown in the Eastern, Southern, and Western parts of our country.

Some of these crops can't be grown in other parts of our country because the climate isn't to good, it hasn't got and abundant rainfall, the soil isn't rich enough, and other things.

First the farmer plows his land, then he harrows it, then he drops the seed, and then he takes a roller and goes over it. This is how they plant their grain. Planting other crops isn't so bad.

The United States imports some of her crops such as bananas and sugar cane. The United States exports a lot of her crops. These crops go mostly to the European countries.

The farmer today is trying to overcome things like the boll weevil, floods, erosion, insects, and many other pests.

A Chart for Studying the Growth of Individual Pupils and the Evaluation of the Test Items of the Mastery Test of Unit One

The Beginning Segment

Pupils	Test Items																
.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
R.K.	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
H.S.	c	c	c	c	c	c	c	c	c	c	c	x	c	c	c	c	c
P.F.	c	c	c	c	c	c	c	c	c	c	c	x	c	c	c	c	c
B.P.	c	c	c	c	c	c	x	x	c	c	x	c	x	c	c	c	c
R.W.	c	c	c	c	x	c	c	c	c	c	c	x	c	c	c	c	c
G.B.	c	c	c	c	c	c	x	x	c	c	c	c	c	c	c	x	c
M.S.	c	c	c	c	c	c	c	c	c	c	c	O	c	c	c	c	c
N.K.	c	c	x	c	c	c	c	c	c	x	c	x	x	c	c	c	c
J.M.	c	c	c	c	c	c	c	c	c	x	c	c	c	c	c	c	c
R.H.	c	c	c	c	c	x	c	c	c	c	c	x	c	c	c	c	c
R.A.	c	c	c	c	c	c	c	c	c	c	c	c	c	c	x	x	c
J.T.	c	c	c	c	c	c	c	c	c	c	c	x	c	c	c	c	c
R.R.	c	c	c	c	x	c	c	x	c	c	c	c	x	c	c	c	c
P.M.	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
G.A.	c	c	c	c	c	x	c	c	c	c	c	c	c	c	c	c	c
R.W.	c	c	c	c	c	c	c	c	c	c	c	c	x	c	c	x	c
M.S.	c	c	c	c	c	c	c	c	c	x	c	x	c	c	c	c	c
M.M.	c	c	c	c	c	c	c	c	c	c	c	x	x	c	c	c	c
R.A.	c	c	c	c	c	x	c	c	c	c	c	x	c	c	c	c	c
R.M.	c	c	c	c	c	x	c	x	c	c	c	x	x	c	c	c	c
G.M.	c	c	c	x	x	c	c	c	c	x	c	x	c	c	c	x	c
T.M.	c	c	c	c	c	c	c	c	c	x	c	x	x	c	c	x	c
J.S.	c	c	c	c	O	c	c	c	c	c	c	x	x	c	c	c	c
J.P.	c	c	x	x	x	x	c	x	c	x	c	x	x	c	c	c	c
W.B.	c	c	c	c	c	x	c	c	c	c	c	x	c	c	c	c	c
J.D.	c	c	c	c	c	x	c	c	c	c	c	x	x	c	c	c	c
G.H.	c	c	c	c	c	c	c	c	c	c	c	x	x	x	c	c	c
L.M.	c	c	c	x	x	x	c	c	c	c	c	x	x	c	c	c	c
R.G.	c	c	c	c	c	c	c	c	c	c	c	c	c	c	x	O	c
W.D.	c	x	c	c	x	x	c	x	c	c	x	x	x	c	c	x	c
P.G.	c	x	c	c	c	c	x	x	c	c	x	x	x	x	x	c	x
N.C.	c	c	c	c	x	x	c	c	c	c	c	x	c	c	c	c	c
D.B.	c	c	c	c	c	c	c	x	c	c	c	x	x	x	c	x	c
N.C.	c	c	x	x	c	c	c	c	c	c	c	x	x	c	c	x	c
M.C.	c	c	c	x	x	c	c	c	c	c	x	c	x	x	x	x	c
J.W.	c	c	x	x	x	c	c	x	x	c	c	c	x	c	c	c	c
F.P.	c	c	x	x	x	x	c	x	c	c	c	x	c	x	x	c	c
Number Right	37	35	32	30	26	26	34	27	36	31	33	12	19	32	32	27	36
Wrong	0	2	5	7	10	11	3	10	1	6	4	24	18	5	5	9	1
Omitted	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0

A Chart for Studying the Growth of Individual Pupils and the Evaluation of the Test Items of the Mastery Test of Unit One

The End Segment

Pupils	Test Items												
	69	70	71	72	73	74	75	76	77	78	Right	Wrong	Omitted
R.K.	c	x	x	c	c	x	c	c	c	c	70	8	0
H.S.	c	x	x	x	c	c	c	c	c	c	64	14	0
P.F.	c	c	c	x	c	c	c	c	c	x	64	14	0
B.P.	c	x	x	x	c	c	c	c	c	c	63	15	0
R.W.	x	x	x	c	c	c	c	c	c	c	61	17	0
G.B.	c	c	c	x	c	c	x	c	c	x	60	18	0
M.S.	x	x	x	x	c	c	c	0	0	c	59	16	3
N.K.	x	x	c	c	c	c	c	c	c	x	59	19	0
J.M.	c	x	x	c	c	x	c	c	c	c	59	19	0
R.H.	c	x	x	x	c	x	c	c	x	c	58	20	0
R.A.	x	c	c	c	x	x	x	c	c	c	58	20	0
J.T.	x	x	x	c	c	c	c	c	c	c	58	20	0
R.R.	x	x	c	x	c	c	c	c	c	x	57	21	0
P.M.	c	c	c	x	c	x	x	c	x	x	56	22	0
G.A.	x	x	c	x	c	c	c	c	c	x	55	23	0
R.W.	c	x	x	c	c	c	c	c	c	x	54	24	0
M.S.	x	c	c	c	c	c	c	c	c	x	52	26	0
M.M.	x	x	c	x	c	x	x	c	x	x	52	26	0
R.A.	x	x	x	c	c	x	c	c	c	c	52	26	0
R.M.	x	c	c	c	x	x	c	c	c	x	52	25	1
G.M.	c	x	x	c	c	c	x	c	c	c	52	26	0
T.M.	x	x	c	c	c	c	c	c	c	x	52	26	0
J.S.	c	x	c	x	c	c	c	x	x	x	52	25	1
J.P.	x	x	c	c	c	c	c	c	c	x	49	29	0
W.B.	c	c	c	x	c	c	c	c	c	x	52	24	2
J.D.	c	c	c	x	c	c	c	c	x	c	51	27	0
G.H.	c	c	x	x	c	x	c	c	c	x	51	27	0
L.M.	c	c	x	c	c	x	c	c	c	x	50	28	0
R.G.	c	x	x	x	c	x	c	c	x	x	50	27	1
W.D.	c	x	c	x	c	x	x	c	c	c	49	27	2
P.G.	c	x	x	c	c	c	c	c	x	x	49	28	1
N.C.	c	x	x	x	x	x	x	x	x	c	48	30	0
D.B.	c	x	c	x	c	x	x	c	c	x	48	30	0
N.C.	c	x	c	x	c	x	x	x	c	x	45	32	1
M.C.	c	x	c	x	c	c	x	c	x	x	44	34	0
J.W.	c	x	c	x	c	x	c	c	c	x	40	38	0
F.P.	c	c	x	x	x	x	x	c	c	x	32	46	0
Number Right	24	11	21	15	33	20	26	33	27	14			
Wrong	13	26	16	22	4	17	11	33	9	23			
Omitted	0	0	0	0	0	0	0	1	1	0			

A Chart for Studying the Growth of Individual Pupils and the Evaluation of the Test Items of the Mastery Test of Unit Two

The Beginning Segment

Pupils	Test Items												
	1	2	3	4	5	6	7	8	9	10	11	12	13
J.D.	c	c	c	c	c	c	c	x	c	c	c	c	c
H.S.	c	x	c	c	c	c	c	c	c	x	c	c	c
R.K.	x	x	c	c	c	c	c	c	c	c	c	c	c
T.M.	c	c	c	c	x	c	c	x	x	c	c	c	c
M.S.	x	c	c	c	c	c	c	x	c	c	c	c	c
W.D.	x	x	c	c	c	c	c	x	c	c	c	c	c
G.H.	c	x	c	c	c	c	c	c	c	c	c	c	c
J.M.	x	c	c	c	c	c	c	x	c	c	c	c	c
P.M.	x	c	c	c	x	c	c	x	x	c	c	c	c
P.G.	x	x	c	c	x	c	c	x	x	c	c	c	c
L.M.	x	c	c	c	c	c	c	x	x	c	c	c	c
R.A.	x	x	c	c	x	c	c	c	c	c	c	c	c
G.M.	x	c	c	c	c	c	c	x	c	c	c	c	c
P.F.	x	x	c	c	c	c	c	x	c	c	c	c	c
W.B.	x	c	c	c	c	c	c	c	c	c	c	c	c
R.H.	x	x	c	c	x	c	c	x	x	c	c	x	c
B.P.	c	x	c	c	x	c	c	x	c	c	c	c	c
G.B.	c	x	c	c	x	c	c	x	c	c	c	c	c
J.S.	x	x	c	c	c	c	c	x	x	x	c	c	c
N.K.	c	x	c	c	x	c	c	x	c	c	c	c	c
R.M.	x	c	c	c	x	x	c	x	c	c	c	c	c
J.P.	c	c	c	c	c	c	c	x	c	c	c	x	c
M.S.	c	x	c	c	x	c	c	x	x	c	c	x	c
M.M.	x	c	c	c	c	c	c	x	c	c	c	c	c
R.R.	c	x	c	c	x	c	c	x	x	c	c	x	c
R.G.	c	x	c	c	x	c	c	x	c	c	c	c	c
N.C.	x	x	c	c	c	c	c	x	c	c	c	c	c
R.A.	c	c	c	c	x	c	c	c	c	x	x	c	c
J.T.	c	c	c	c	x	c	c	x	c	c	c	c	c
G.A.	c	x	c	c	x	c	c	x	x	c	x	c	c
D.B.	x	c	c	c	x	c	c	x	c	c	c	c	c
M.C.	x	c	c	c	c	c	c	x	x	c	c	x	c
R.W.	c	x	c	c	c	c	c	x	x	c	c	c	c
R.W.	c	c	c	c	x	c	c	c	c	c	x	x	c
J.W.	c	c	c	c	c	c	c	x	x	x	c	x	c
N.C.	x	c	c	c	c	c	c	x	x	c	c	c	c
F.P.	x	x	x	c	c	x	c	x	c	c	c	c	c
Number Right	17	18	36	37	20	35	37	7	24	33	34	30	37
Wrong	20	19	1	0	17	2	0	30	13	4	3	7	0
Omitted	0	0	0	0	0	0	0	0	0	0	0	0	0

A Chart for Studying the Growth of Individual Pupils and the Evaluation of the Test Items of the Mastery Test of Unit Two

The End Segment

Pupils	Test Items										
	165	166	167	168	169	170	171	172	Right	Wrong	Omitted
J.D.	c	c	c	c	x	c	c	c	147	27	0
H.S.	c	c	x	c	x	c	x	c	140	32	0
R.K.	c	c	c	c	x	c	c	c	137	35	0
T.M.	c	c	c	x	x	c	c	c	134	38	0
M.S.	c	x	c	x	x	c	x	c	133	38	1
W.D.	c	c	c	c	x	c	x	c	129	42	1
G.H.	x	c	x	x	x	c	x	c	126	46	0
J.M.	c	c	c	c	x	c	c	c	126	46	0
P.M.	c	x	c	x	x	c	c	c	125	46	1
P.G.	c	c	c	c	x	c	c	c	124	48	0
L.M.	c	x	x	c	x	c	c	c	123	49	0
R.A.	c	c	x	c	x	c	x	c	123	49	0
G.M.	c	c	c	x	x	c	x	c	123	49	0
P.F.	x	c	c	c	x	c	x	c	123	49	0
W.B.	x	x	x	c	x	c	c	c	122	49	1
R.H.	c	c	c	c	x	c	x	c	122	30	0
B.P.	c	c	x	c	x	c	c	c	121	51	0
G.B.	x	c	x	x	x	c	c	c	120	52	0
J.S.	c	c	x	x	x	c	x	c	116	56	0
N.K.	c	c	c	c	x	c	c	c	115	57	0
R.M.	x	c	x	c	x	c	c	c	113	59	0
J.P.	c	x	x	c	x	c	c	c	112	60	0
M.S.	c	c	x	c	x	c	x	c	109	63	0
M.M.	x	c	x	c	x	c	x	c	109	62	1
R.R.	c	c	x	x	c	x	x	c	109	63	0
R.G.	c	x	c	x	x	c	c	c	106	66	0
N.C.	c	c	c	c	x	c	x	c	106	66	0
R.A.	c	c	x	c	x	c	c	c	106	66	0
J.T.	c	x	x	x	x	c	c	c	104	18	0
G.A.	c	c	x	x	x	c	c	c	103	69	0
D.B.	c	x	c	x	x	c	x	c	102	70	0
M.C.	c	c	x	x	x	c	c	c	101	71	0
R.W.	x	c	c	c	x	c	c	c	101	71	0
R.W.	x	c	c	c	x	x	x	c	99	73	0
J.W.	x	c	x	c	x	c	x	c	98	73	1
N.C.	x	c	x	x	x	c	c	x	97	75	0
F.P.	c	c	x	x	x	c	x	x	86	86	0
Number Right	27	29	17	22	1	35	20	35			
Wrong	10	8	20	15	36	2	17	2			
Omitted	0	0	0	0	0	0	0	0			

A Source List of Articles for Reading and Reporting

from

The Reader's Digest

Super Cows and Chickens The work of the plant and animal experiment station at Beltsville, Maryland under the direction of the Department of Agriculture.	July 1946 pages 141-144
Is the Dust Bowl Coming Back? Problems of the farmers in the Great Plains.	June 1946 pages 116-120
The Helicopter Comes of Age New developments in transportation.	May 1946 pages 89-92
Battle Over the Missouri Valley	April 1946 pages 69-73
Radio Heat Makes Production Jump An invention which helps many industries make better products in less time.	April 1946 pages 93-95
Now We Have Synthetic Gasoline	March 1946 pages 31-32
New Ruler of the Roost - The Hy-Line Chicken A new hybrid chicken.	March 1946 pages 55-58
Roads for Tomorrow	March 1946 pages 115-117
Needed: A Good Three-Cent Air Line	February 1946 pages 21-24
The Redwoods; America's Immortals	December 1945 pages 82-84
The War's Havoc of Our Natural Resources	December 1945 page 75
New Things Coming in Textiles A new plastic binder permits the production of unwoven cloth.	November 1945 pages 55-58

All the Food That's Fit to Eat Dehydrated and frozen foods.	November 1945 pages 21-24
Revolution in Cotton A mechanized cotton plantation.	October 1945 pages 84-86
Death in the Everglades Description of a hurricane and its destruction.	October 1945 pages 34-37
Revolution in the Corn Belt A new hybrid corn.	September 1945 pages 23-26
Tailor-Made Livestock Animals can be made more productive or slowed down and fattened at will by a new feeding ides.	June 1945 pages 38-40
America's World Chance What the United States must do to increase its foreign trade.	June 1945 pages 5-9
Harnessing Black Light New uses for infrared rays.	May 1945 pages 98-100
New Pioneer of the Land How a worn-out farm in Ohio was restored.	May 1945 pages 105-108
Chesapeake Shell Game The oyster industry.	April 1945 pages 111-114
Bonanza by the Roadside The ingenuity of a date merchant suggest opportunities for many who want to start their own businesses.	March 1945 pages 91-93
Louisiana's Fabulous Muskrat Marshland	March 1945 pages 77-79
What Won't They Do Next With Glass	February 1945 pages 53-55
Where All Those Big Shrimp Came From Shrimp industry in the Gulf of Mexico.	January 1,1945 pages 50-52
Now the Farmers Grow Fish A new crop for southern farmers.	January 1945 pages 84-86

Kudsu - Another Agricultural Miracle — January 1945, pages 94-96
A Japanese ornamental vine is restoring southern farm land.

What the T.V.A. Means — October 1944, pages 37-40
How the Tennessee river is controlled and the resulting profits and services.

Uncle Sam's Valian Plant Hunters — October 1944, pages 94-96
The work of the U.S. Department of Agriculture in finding and introducing new crops.

Ohio's Co-op Giant — October 1944, pages 113-114
The activities of the Ohio Farm Bureau Cooperative Association.

Can the Farm Catch Up With the Machine Age? — October 1944, pages 77-82
Plans for low-cost agricultural machinery.

Super-Wood Has Arrived — August 1944, pages 43-44
A new product which has suddenly multiplied our dwindling forest resources.

Chemists Hit the Sawdust Jackpot — June 1944, pages 50-52
Alcohol from sawdust.

Aladdin of Aluminum — June 1944, pages 81-84
R.S.Reynolds, a man with foresight and ingenuity in the production of new aluminum products.

Take a Look at the World's Busiest Port — May 1944, pages 33-35
The port of New York in wartime.

Mr. Saunder's Magic Glue — April 1944, pages 59-60
Cycleweld, a new glue product.

How the Mason Place Affects You — February 1944, pages 35-37
What ruined farm lands mean to the American people.

Revolution in Rice — February 1944, pages 50-52

Tomorrow's Menu Frozen Foods. — February 1944, page 15

Tomorrow's Gasoline - Triptane A new gasoline for airplanes.	January 1944 pages 45-48
Assembly-Line Farmer A New Jersey truck farm, the world's largest truck farming enterprise.	January 1944 pages 95-97
Friends of the Land An organized society educates the American people to conserve their natural resources.	January 1944 pages 61-64
Go North, Young Man The opportunities in Alaska.	January 1944 pages 53-57
Pipe-Line Paragon Transportation for petroleum products.	January 1944 pages 110-112
Tornado in a Box Gas turbine, a new kind of engine.	November 1943 pages 20-23
Now That We Have the Freezing Outfit	November 1943 pages 7-10
What Ingenuity Has Done for Private Jones How American research specialists met the problem of supplies for soldiers in a modern war.	September 1943 pages 55-59
Rebirth of an American Farm How a run-down farm in Ohio was made productive.	September 1943 pages 76-80
Are You Neglecting the Wonder Bean? Soybeans and soybean products	September 1943 pages 107-109
Rubber - It's Coming at Last The synthetic rubber industry	July 1943 pages 81-83
Go South, Young Man The opportunities and advantages in developing the resources of our Latin American neighbors.	July 1943 pages 39-42
America's Treasure Isles Pribilof Islands, the seal, and the seal industry.	July 1943 pages 47-50

Missouri's Fighting Priest — May 1943, pages 107-110
How scientific farming methods were introduced into a Missouri community.

Will War Make Us a Have-Not Nation? — April 1943, pages 91-92
How our natural resources are being used in the making of armaments.

Our Stake in the Postwar Air World — April 1943, pages 97-100
A discussion by the U.S.News and Clare Boothe Luce of the world air transportation after the war.

Making Machine Parts from Metal Dust — May 1943, pages 100-102

Old Man in a Hurry — January 1943, pages 49-52
The story of a man who revolutionized transportation with steel.

Fishing is a War Job, Too — January 1943, pages 55-58
The New England fishing industry and its peculiar wartime problems.

The Pantry of Democracy — November 1942, pages 113-116
New packing and preserving methods enable the United States to supply the United Nations with food.

Weather Is Used as a Weapon — November 1942, pages 109-112
Secrets of long range weather forecasting.

Desert Giant — November 1942, pages 119-123
The magnesium plant in Nevada which receives power from the Boulder Dam.

The Helicopters Are Coming — October 1942, pages 126-129

This Age of Ingenuity — October 1942, pages 93-94
Wartime shortages and needs spur resourcefulness of inventors.

Our Wartime Wizardry With Aluminum — September 1942, pages 84-87
Products of aluminum research.

Plywood Flies and Fights — July 1942, pages 98-101
Use of plywood in the airplane industry.

Hell Sweeps a State — July 1942, page 80
Description of forest fires in western Montana.

Battle of the Soo — June 1942, pages 111-114
The world's busiest waterway, where ice is the enemy and ore is the prize.

World's Most Fantastic Farm — June 1942, pages 26-28
Experiments at the Department of Agriculture Research Center, Beltsville, Maryland.

Looking Into a Tornado — June 1942, page 17

Oil on the Branch — April 1942, pages 65-68
A Brazilian nut which is used in the American paint and varnish industry.

Magic of High Octane Gas — March 1942, pages 103-107
Revolutionized motor transportation.

Magic in the Muck — February 1942, pages 126-128
Restored farm lands of Indiana grow potatoes.

The World's Greatest Wood Magician — October 1941, pages 72-74
Forest Products Laboratory adds millions to the value of our wood products and forests.

Revolution in Southern Agriculture — August 1941, pages 94-97
New corps and healthier cattle.

Yankee Ingenuity Makes a Railroad Pay — July 1941, pages 35-38

So This Is Texas — July 1941, pages 27-29
Description and history.

The Water's In — June 1941, pages 101-103
The importance of rainfall in the arid lands of Nevada.

Run, Sheep Dog, Run — May 1941, pages 57-60
How dogs are used on Western sheep ranges.

Go West, Young Man — April 1941, pages 106-108
A plan of conservation of millions of acres of government land.

Native Returns to the Amazon — April 1941, pages 13-18
New supplies of rubber from Brazil.

Earthworm Farmer — February 1941, pages 53-54
A new idea in soil improvement.

Chronicles of Americanization — February 1941, pages 7-11
The story of an immigrant family telling of how America was built.

Supercharged Flour - An Epoched Advance — January 1941, pages 111-113
Vitamins added to white flour.

Jack of All Trades - The Electric Eye — January 1941, pages 199-102
A photo-electric device.

Wood Waste Magic — November 1940
How a lumberman tackles a waste problem with conspicuous success.

Molasses Rides the Range — October 1940, pages 61-64
Molasses, a waste product of Latin American sugar industries, is imported to fatten cattle in the United States.

Soybean Pioneer — September 1940, pages 70-72
How the soybean became an American crop.

Cracking Down on Forest Fires — September 1940, pages 82-83
Parachute fire-fighters and other new ideas in fire fighting.

Synthetic Rubber's Declaration of Independence — September 1940, pages 103-105
How the United States can fulfill its rubber needs with synthetic rubber.

More Power to the Farmer — August 1940, pages 58-60
What electricity can do for the United States farmer.

Why I Came to America — August 1940, pages 17-19
A symposium. Prominent citizens give their reasons for coming to America.

Maestro of the Atom — August 1940, pages 102-104
The invention of the cyclotron, an atom smasher.

Up from the Dust — July 1940, pages 20-22
How dust bowl farmers are winning their fight against wind erosion.

Glass Magic — July 1940, pages 47-50
How the new and growing profession of industrial research creates better products, lower prices, and more jobs.

America's Aerial Destiny — June 1940, pages 50-53
United States supremace in aviation.

Speeding Up Nature — May 1940, pages 69-71
How botanists create new plants to order with the drug colchicine.

New Strength for the Staff of Life — April 1940, pages 23-26
How white flour is produced to have the health-giving vitamins of whole wheat.

The U. S. A. — April 1940, pages 1-7
What makes the United States a wealthy nation.

Dawn of the Day of Nylon — February 1940, pages 47-50
A new product is developed by industrial research.

Radium Eldorado — January 1940
The world's richest radium field discovered near the Arctic Circle.

Poison from the Sky — October 1939, pages 65-67
Dusting crops with poison by plane.

Pine-Tree Bankers — December 1939, pages 60-63
A new plan for lumbering in the South which will make permanent forests.

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The Saguaro, Cactus Camel of Arizona Excellent pictures of Arizona desert.	December 1945 pages 695-696
Taming the Outlaw Missouri River	November 1945 pages 568-598
Your New World of Tomorrow The age of atomic power.	October 1945 pages 388-410
Flaming Cliffs of Monument Valley The desert land of the Navajos.	October 1945 pages 452-462
Northeast of Boston	September 1945 pages 257-292
Where New England Meets the Sea 17 natural color photographs.	September 1945 pages 281-288
Grass Makes Wyoming Fat	August 1945 pages 153-188
Potomac, River of Destiny	July 1945 pages 33-70
Nebraska, the Cornhusker State	May 1945 pages 513-542
The Yeild of Texas The oil, natural gas, lumbering, cattle, cotton, and other industries.	February 1945 pages 163-186
Michigan Fights and Great Lakes and Great Industries	December 1944 pages 677-716
The Delectable Shrimp	October 1944 pages 501-512
America Fights on the Farms 21 natural color photographs.	July 1944 pages 33-48

Idaho Made the Desert Bloom	June 1944 pages 641-680
Coal: Prodigious Worker for Man	May 1944 pages 569-592
Echoes of Whaling Days	April 1944 pages 433-458
How We Use the Gulf of Mexico Transportation, sea foods, furs, naval stores, oil, sulphur, and playground.	January 1944 pages 1-32
*Land of a Million Smiles The Ozarks.	May 1943 pages 589-624
*The Long River of New England	April 1943 pages 401-434
*Weather Works and Fights for Man	December 1943 pages 641-670
*Bolivia - Tin Roof of the Andes	March 1943 pages 309-332
Glass Goes to Town	January 1943 pages 1-40
In the Pennsylvania Dutch Country	July 1942 pages 37-74
*Farmers Keep Them Eating	April 1943 pages 435-438
Tidewater Virginia, Where History Lives	May 1942 pages 617-656
Metal Sinews of Strength Alloys, excellent pictures of iron mines in Minnesota, copper mines in Utah, and a discussion of the lesser known metals, beryllium, tungsten, etc.	April 1942 pages 457-491

* Available in the classroom library.

Revolution in Eating Machine age food.	March 1942 pages 274-324
Black Acres	November 1941 pages 631-652
Our Insect Fifth Column Alien enemies take steady toll of food, trees, and treasure by boring from within.	August 1941 pages 225-248
Pennsylvania - Land of Plenty	July 1941 pages 37-74
Today's World Turns on Oil	June 1941 pages 703-748
The Columbia Turns on the Power	June 1941 pages 749-792
Fruitful Shores of the Finger Lakes Vineyards, fruit orchards, kraut-making.	May 1941 pages 559-594
Maryland Presents	April 1941 pages 401-448
So Oklahoma Grew Up	March 1941 pages 269-313
Cotton: Foremost Fiber of the World	February 1941 pages 137-184
Aviation in Commerce and Defense	December 1940 pages 685-726
Tin, the Cinderella Metal	November 1940 pages 659-684
*The Tuna Harvest of the Sea Southern California.	September 1940 pages 393-408
*West Virginia; Treasure Chest of Industry"	August 1940 pages 141-184
*Seeing Our Spanish Southwest	June 1940 pages 769-794

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*Fabulous Yellowstone	June 1940 pages 769-794
Our Most Versatile Vegetable Product Rubber	February 1940 pages 143-200
Whales, Giants of the Sea	January 1940 pages 35-90
South Florida's Amazing Everglades Wild life, Seminoles, and cypress swamps.	January 1940 pages 115-142
The Texas Delta of an American Nile The Rio Grande.	January 1939 pages 51-96
Chemists Made a New World Plastics	November 1939 pages 601-639
*Chesapeake Odyssey	September 1939 pages 357-392
Iowa, Abiding Place of Plenty Corn.	August 1939 pages 144-182
Highlights of a Volunteer State Tennessee.	May 1939 553-594
Spin Your Globe to Long Island	April 1939 pages 452-459
The Geography of a Hurricane	April 1939 pages 529-552
California's Coastal Redwood Realm	February 1939 pages 133-184
Fishing in Pacific Coast Streams	February 1939 pages 185-212
Treasures of the Pacific Fish.	October 1938 pages 463-498
Connecticut, Prodigy of Ingenuity	September 1938 pages 279-326
New York State's Air-Conditioned Roof The Adirondacks.	June 1938 pages 715-748

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New Mexico Melodrama	May 1938 pages 529-570
Bonds Between the Americas Trade relations.	December 1937 pages 785-808
Machines Come to Mississippi	October 1937 pages 263-318
Speaking of Kansas	August 1937 pages 135-182
On Goes Wisconsin	July 1937 1-46
In the White Mountains	July 1937 pages 73-104
Men Against the Rivers	June 1937 pages 767-794
Crater Lake and Yosemite	March 1937 pages 327-343
Denizens of Our Warm Atlantic Waters	February 1937 pages 199-219
Trains of Today and Tomorrow	November 1936 pages 535-590
New England Ski Trails	November 1936 pages 645-664
Indiana Journey	August 1936 267-320
Sea Creatures of Our Atlantic Shores	August 1936 pages 209-231
Rambling Around the Roof of Eastern America	August 1936 pages 243-266
Down Idaho's River of No Return	July 1936 pages 95-136
Bursts of Color in Sculptured Utah	May 1936 pages 577-624

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From The Saturday Evening Post

Cities of America - Detroit	June 22, 1946
Want to Go South, Young Man?	June 8, 1946
Cities of America - New Orleans	June 1, 1946
Fast Water Man The Colorado and San Juan Rivers.	May 18, 1946
A Lady Named Bess A modern blast furnace.	May 11, 1946
Cities of America - Baltimore	May 11, 1946
Cities of America - Cincinnati	April 20, 1946
Factory in the Country The advantages of having a factory in the country rather than in the city.	April 13, 1946
Texas Has Something New to Brag About	April 6, 1946
Followers of the Fleece How sheep are sheared in the West.	April 6, 1946
The Cities of America - Dallas and Fort Worth	March 30,- 1946
They Hunt for Bad Weather The Flying Weather Bureau	March 30, 1946
The Catfish is King in Dixie A fresh water fish that is marketed in the South and Mid-west.	March 23, 1946
Television: Boom or Bubble?	March 9, 1946 March 16, 1946 March 23, 1946
The Cities of America - Salt Lake City	March 9, 1946
Canada Found the Pitchblende	March 2, 1946
Cities of America - San Francisco	February 16, 1946

Cities of America - New York	January 26,1946
What You Can Believe About the M.V.A.	January 19,1946
Canada's New Gold Boom	January 19,1946
Trouble in the Northeast Factories are moving South and West.	January 12,1946
Cities of America - Madison	January 5,-1946
Cities of America - San Antonio	November 24, 1945
Down Goes a RedWood Tree	November 10, 1945
Angel of the Range A Wyming Hereford ranch.	November 3,1945
Cities of America - Chicago	November 3,1945
Cities of America - Boston	September 1, 1945
You'll Ride High, Wide, and Handsome Tomorrow's airliners.	September 29, 1945
Cities of America - Kansas City	August 25, 1945
Cities of America - Seattle	October 13,1945
The White Elephant Comes Into Its Own Power from Grand Coulee and Bonneville dams used in aluminum production.	June 5, 1943
Chesapeake Shell Game	February 3,1945
That Wonderful Stuff Called Wood New products of wood.	November 25, 1944
How to Live 70 Miles from Town Life on a Wyoming ranch.	September 23, 1944
Will There Be Enough Water? The underground water reserves of eastern United States.	May 27, 1944
Fulton-Free-for-All Wholesale fish markets.	March 11, 1944

Christmas-Tree Man	December 13, 1943
The Richest Hill on Earth Butte, Montana.	October 30,1943
Magic Valley Resources and industries of the Kanawha Valley, West Virginia - a treasure chest of coal, oil, gas, salt, and limestone.	October 2, 1943
Floods Are Unnecessary	August 21,-1943
Rats to Riches Muskrat trapping industry in southern Louisiana marshland.	May 8, 1943
Acres Are Aces	February 27, 1943
Bayou Bounty Moss for upholstery picked from trees in Louisiana's Archafalaya Basin.	January 23,1943
3 Billion Little Fishes The herring industry of Maine.	January 16,1943
Bubble Beneath the Plains	December 12, 1942
Indian Shangri-La Life in an Arizona canyon.	December 5,1942
The Coming Crisis in Iron	November 14, 1942
The Swamps Go to War Lumbering in the southern delta swamp.	October 10,1942
All Kidding Aside Raising goats.	September 26, 1942
Fantastic Forest	August 22, 1942
Oil is Where You Pipe It	July 18, 1942
Treasure on the Ocean Floor Sponge fishing on Florida's Gulf Coast.	June 20, 1942

Banana Cowboy — May 16, 1942

A Kingdom for a Horse-Mackerel — February 28, 1942
Tuna fishing.

Joe Cox's Trees Live On — January 31, 1942

Uncle Sam Goes Prospecting — November 15, 1941
A search for metals we lack.

Vegetables Made to Order — February 1941
(From "The Country Gentleman")
How plant breeders have made over garden truck to meet the needs of the market.

From Life

Boll Weevil's Birth: Overnight from Pupa and into Adult — October 29, 1945

Wood; Manpower, Not Resources, Now Puts It on the War's Long List of Shortages. — January 4, 1943

War Taps Brazil's Wild Rubber — May 24, 1943

Farming for War; Department of Agriculture Faces Big Job — January 25, 1943

Industrial Chemistry: It Meets the Demands for War — March 23, 1942

Vermont Harvests Its Maple Syrup In Wartime — April 27, 1942

Milk — May 4, 1942

World Oil; Its Geography Guides the War — May 18, 1942

Spring Planting — May 25, 1942

T.V.A.; It Is Working Overtime for War — July 13, 1942

Aluminum; Biggest Mill Speeds Production — July 27, 1942

Angora Goats — August 31, 1942

Steel — October 19, 1942

Peter's Victory

A Triumph for a Horse-Lover!

From Prairie.

U.S. Don't Have Any Oh

Uncle Sam Loses Freedom

A Weapon for Britain to Seek.

Vermilion Made to Order

(From "The Country Gentleman")

How plant breeders have made over Garden truck to meet the needs of the market.

From Life

Bill Beverly's Birth: Varmints from Pipe and Radio Audit

Wood: Everyman, God Dangerous, Do Vote It on the Vote's Home List of Shortages

Mrs Tara Donald's Mind Improv

Parading for Pay: Impressions of Afternoon Faces Big Job

Industrial Discovery: It Made the Demands for War

Vermont Surveys the Maple Syrup in Wartime

Milk

World Oil: The Peacetime Outlook the War

Cooking Champion

T.V.A.: It Is Working Overtime For War

Alumina: Record Mill Speeds Production

Europe Double

Wheat

FIFTEEN HUNDRED COMMONEST WORDS

TITLE OF BOOK The United States in the Modern World

A
a
able
about
above
accept
according
account
across
act
action
add
address
admire
advance
advantage
afraid
after
afternoon
afterward
again
against
age
ago
agree
ah
aid
air
alive
all
allow
almost
alone
along
already
also
although
always
am
America
American
among
amount
an
ancient
and
anger
angry
animal
another
answer
any
anything
apart
appear
apple
apply
appoint
approach
April
are
arm
army
around
arrive
art
article
as
ask
asleep
at
attempt
attend
August
aunt
awake
away

B
baby
back
bad
bag
bake
ball
band
bank
bar
bare
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barn
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basket
battle
bay
be
beat
beautiful
beauty
became
because
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bee
been
before
beg
began
begin
behind
behold
being
believe
bell
belong
below
bend
beneath
beside
best
better
between
bid
big
bill
bind
bird
birth
bit
bite
bitter
black
blame
bless
blame
block
blood
blossom
blow
blue
board
boat
body
boil
bold
bone
book
border
born
both
bottle
bottom
bought
bound
bow
bowl
box
boy
branch
brave
bread
break
breakfast
breast
breath
breathe
brick
bridge
bright
bring
broad
broken
brook
brother
brought
brown
brush
build
building
built
burn
burst
bury
bush
business
buy
but
butter
buy
by

C
cake
call
came
camp
can
cannot
cap
captain
car
card
care
careful
carriage
carry
case
cast
castle
cat
catch
cattle
caught
cause
cent
center
certain
chain
chair
chamber
chance
change
character
charge
Charles
charm
chase
check
cheek
cheer
chicken
chief
child
children
choice
choose
chose
Christmas
church
circle
city
claim
class
clean
clear
climb
clock
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cloth
clothe
clothes
cloud
coal
coast
coat
cock
coffee
cold
college
color
come
comfort
coming
command
common
companion
company
compare
complete
condition
connect
consent
consider
constant
contain
content
continue
cook
cool
copy
corn
corner
correct
cost
cotton
could
count
country
course
court
cousin
cover
cow
cream
creature
creep
cried
crop
crosa
crowd
crown
cruel
cry
cup
curtain
custom
cut

D
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danger
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darkness
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December
decide
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deep
degree
delay
delight
deliver
demand
depart
describe
desert
desire
desk
destroy
diamond
die
difference
different
difficult
dinner
direct
direction
discover
disb
distance
distant
divide
do
doctor
does
dog
dollar
done
don't
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double
doubt
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dozen
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dream
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drink
drive
drop
drown
dry
due
during
dust
duty

E
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east
easy
eat
edge
effect
egg
eight
either
elect
else
employ
empty
end
enemy
England
English
enough
enter
entire
equal
ere
escape
especial
establish
Europe
even
evening
event
ever
every
everything
evil
exact
example
excellent
except
exercise
expect
experience
explain
express
extend
eye

F
face
fact
fail
faint
fair
fall
family
famous
fancy
far
fare
farm
farmer
farther
fashion
fast
father
fault
favor
fear
feast
feather
feed
feel
feeling
fell
fellow
felt
fence
few
field
fierce
fifteen
fifth
fifty
fight
figure
fill
final
finally
find
fine
finger
finish
fire
firm
first
fish
fit
five
fix
flag
flame
flash
flat
flesh
floor
flour
flow
flower
fly
fold
folk
follow
following
fond
food
fool
foot
for
force
foreign
forest
forget
form
former
forth
fortune
forty
forward
fought
found
four
fourth
fox
frame
France
free
freedom
French
frequent
fresh
Friday
friend
friendly
from
front
frost
fruit
full
fun
furnish
further
future

G
gain
game
garden
gate
gather
gave
gay
general
gentle
gentleman
George
German
get
giant
gift
girl
give
given
glad
glass
glory
go
goat
God
going
gold
golden
gone
good
goose
got
government
governor
grace
grain
grand
grant
grape
grass
grave
gray
great
green
greet
grew
ground
grow
guard
guess
guest
guide
gun

H
had
hair
half
hall
hand
handle
hang
happen
happy
hard
hardly
harm
harry
harvest
has
haste
hat
hate
have
hay
he
head
health
hear
heard
heart
heat
heaven
heavy
heel
height
held
help
hen
hence
Henry
her
here
herself
hide
high
hill
him
himself
hie
history
hold
hole
hollow
holy
home
honest
honey
honor
hope
horn
horse
hot
hour
house
how
however
huge
human
hundred
hung
hungry
hunt
hurry
hurt
husband

I
I
ice
idea
if
ill
imagine
immediate
important
in
inch
include
increase
indeed
Indian
inside
instead
intend
interest
into
invite
iron
is
island
issue
it
its
itself

J
jack
James
January
John
join
journey
joy
judge
July
jump
June
just
justice

K
keep
kept
key
kill
kind
kindly
king
kingdom
kiss
kitchen
knee
knew
knife
knight
knock
know
knowledge

L
labor
lack
lad
lady
laid
lake
lamb
lamp
land
language
large
last
late
laugh
law
lay
lead
leader
lean
leap
learn
least
leather
leave
led
left
leg
length
less
lesson
let
letter
level
liberty
lie
life
lift
light
like
limit
line
lion
lip
list
listen
little
live
load
lock
lodge
London
long
look
loose
lord
lose
loss
lost
lot
loud
love
lovely
low
lower
lying

M
machine
mad
made
maid
mail
main
make
man
manner
many
map
march
mark
market
marry
Mary
mass
master
match
material
matter
may
me
meadow
meal
mean
meant
measure
meat
meet
melt
member
memory
men
mention
merchant
mere
merry
message
met
middle
midnight
might
mighty
mile
milk
mill
million
mind
mine
minute
miss
mistake
mix
moment
Monday
money
month
moon
more
morning
most
mother
mount
mountain
mouse
mouth
move
Mr.
Mrs.
much
murmur
music
must
my
myself

N
nail
name
narrow
nation
native
natural
nature
near
necessary
neck
need
neighbor
neither
nest
net
never
new
news
New York
next
nice
night
nine
no
noble
noise
none
noon
nor
north
nose
not
note
nothing
notice
November
now
number
nurse
nut

O
O
oak
obey
object
observe
obtain
occasion
occupy
ocean
October
of
off
offer
office
officer
often
oh
oil
old
on
once
one
only
open
opinion
or
orange
order
other
ought
our
out
outside
over
owe
own

P
pack
page
paid
pain
paint
pair
palace
paper
parent
park
part
particular
party
pass
past
path
pay
peace
pen
people
perfect
perhaps
permit
person
pick
picture
pie
piece
pig
pile
pin
pipe
pity
place
plain
plan
plant
plate
play
pleasant
pleasure
plenty
pocket
poet
point
pole
poor
port
possess
possible
post
pot
potato
pound
pour
power
practice
praise
pray
prayer
prefer
prepare
presence
present
preserve
president
press
pretty
prevent
price
pride
prince
print
prisoner
private
proceed
produce
promise
protect
proud
prove
provide
public
pull
pupil
purchase
pure
purpose
push
put

Q
quality
quantity
quarter
queen
question
quick
quiet
quite

R
race
railroad
rain
raise
ran
range
rank
rapid
rate
rather
reach
read
ready
real
reason
receive
record
red
refuse
regard
region
remain
remember
remove
rent
repair
repeat
reply
report
represent
require
respect
rest
result
return
rich
ride
right
ring
rise
river
road
roar
rock
rod
roll
Roman
roof
room
root
rose
rough
round
row
royal
ruin
rule
run
rush

S
sad
safe
said
sail
salt
same
sand
sat
satisfy
saw
say
scale
scarce
scatter
school
sea
search
season
seat
second
secret
secure
see
seed
seek
seem
seen
seize
self
sell
send
sense
sent
separate
September
servant
serve
service
set
settle
seven
seventy
several
sew
shade
shadow
shake
shall
shame
shape
share
sharp
she
shed
sheep
sheet
shell
shelter
shine
ship
shoe
shoot
shop
shore
short
shot
should
shoulder
shout
show
shut
sick
side
sigh
sight
sign
silence
silent
silk
silver
simple
since
sing
single
sink
sir
sister
sit
six
size
skin
skirt
sky
slave
sleep
slight
slip
slow
small
smell
smile
smoke
smooth
snow
so
soft
soil
sold
soldier
some
something
sometime
son
song
soon
sorrow
sorry
sort
soul
sound
south
space
Spanish
spare
speak
special
speech
spend
spent
spirit
spite
splendid
spoil
spoke
sport
spot
spread
spring
square
stair
stamp
stand
star
start
state
station
stay
steal
steam
steel
step
stick
still
stir
stock
stone
stood
stop
store
storm
story
straight
strange
straw
stream
street
strength
stretch
strike
strip
strong
struggle
study
style
subject
succeed
success
such
sudden
suffer
sugar
suit
sum
summer
sun
Sunday
supper
supply
support
suppose
sure
surprise
swallow
sweet
swift
swim
sword
system

T
table
tail
take
tale
talk
tall
taste
taught
tax
tea
teach
teacher
tear
tell
ten
tender
tent
term
terrible
than
that
the
thee
their
them
themselves
then
there
therefore
these
they
thick
thin
thing
think
third
thirty
this
those
thou
though
thought
thousand
thread
three
threw
through
throw
thus
thy
tie
till
time
tip
tire
title
to
today
together
told
tomorrow
tongue
too
took
top
total
touch
toward
tower
town
toy
trace
track
trade
train
travel
traveler
treasure
treat
tree
tremble
tribe
tried
trim
trip
trouble
true
trunk
trust
truth
try
turn
twelve
twenty
twice
two

U
uncle
under
understand
union
unite
unless
until
up
upon
upper
us
use
useful
usual

V
vain
valley
value
various
very
vessel
view
village
visit
voice

W
wagon
wait
wake
walk
wall
wander
want
war
warm
was
wash
Washington
waste
watch
water
wave
way
we
weak
wealth
wear
weather
week
weep
weigh
weight
welcome
well
went
were
west
western
wet
what
whatever
wheat
wheel
when
where
whether
which
while
whisper
whistle
white
who
whole
whom
whose
why
wide
wife
wild
will
William
window
wine
wing
winter
wisdom
wise
wish
wit
with
within
without
wolf
woman
women
won
wonder
wonderful
wood
wool
word
work
world
worse
worth
worthy
would
wound
write
written
wrong

Y
yard
year
yellow
yes
yesterday
yet
yield
you
young
your
yourself
youth

UNCOMMON WORDS

A
acre
apiece
approximately
alloy
ammonia
Alabama
annually

B
belt
bulky
by-products
Boston
billions
Brazil

C
China
citrus
canned
cottonseed
coastal
codfish
current
conservation
cypress
copper
clay
convert
community
carbon
Canada
combustion
canning
coke
cultivated
Cincinnati
climate
considerable
confusion
commerce

D
dairy
Dakota
drain
dried
division
disappear
district
develop
difficulties

E
electricity
easterly
easily
extensively
engine
export
eastward
equinoxes
equator

F
freight
fattened
fed
fleet
factories
fisheries
found
furnaces
faraway

G
graph
gear
goods
garden
grading
Galveston

H
hardwoods
hemlocks

I
illustrations
interior
industry
inlet
internal
Indians
improved

J
Jersey

K

L
located
logs
Lansing

M
moreover
Montana
manufacture
Minnesota
Mesabi
México
Michigan
machinery
Malaya

N
northern
nearness

O
overcome
ore

P
plateau
predict
peaches
Philippines
program
Pacific
products
particles
production
pottery
petroleum
Piedmont
Pawtucket
Philadelphia
pulp
per cent

Q

R
Rocky
recent
rice
reforested
roofing
reservoirs
resounds
rails
Rhode Island
rubber
reduce

S
slopes
succession
stalks
safety
situated
steamboat
salmon
San Joaquin
Sacramento
section
southeast
skilled

T
text
throughout
traffic
temperature
tin
tar
Trenton

U
unloading

V
vegetables
varying
Virginia

W
Winston-Salem
wholesome
Wisconsin
wade

XYZ
yolks

(1) Number of Different Common Words 292
(2) Number of Different Uncommon Words 151
Total Number of Different Words 443

WINNETKA CHART FOR DETERMINING GRADE PLACEMENT OF CHILDREN'S BOOKS

by

MABEL VOGEL MORPHETT,
VIVIAN WEEDON, AND
CARLETON WASHBURNE.

WINNETKA PUBLIC SCHOOLS

THE FORM FOR THIS CHART WAS SUGGESTED BY THAT OF ALFRED S. LEWERENZ

Title The United States in the Modern World

Author W.R.McConnell Publisher Rand McNally & Co.

Net Number of Pages 270 Sampling taken from _____

4 words on 190 pages

3 words on 80 pages

Figured by _____ Checked by _____

(1) Number of different words	443	x .00255 =	.99675
(2) Number of different uncommon words	151	x .0458 =	6.9158
		+	1.294
		Sum =	9.20655
(3) Number of simple sentences	36	x -.0307 =	-1.0052
Difference - Grade placement =			8.20135

DIRECTIONS FOR GRADING A CHILDREN'S BOOK

To determine the degree of reading ability a child must have to read a given book it is necessary (I) to select 1000 sample words scattered through the book; (II) to tabulate these words on the other side of this sheet; (III) to find how many of these words are different from each other (called "Number of different words"); (IV) to find how many of these words are not included in the 1500 commonest words in the English language (called "Number of uncommon words"); (V) to select 75 sample sentences scattered through the book; (VI) to tabulate these sentences as simple or not simple; and (VII) to combine these results in a formula. The outcome is the school grade to which a child's reading score on a standard test should correspond if he is to read the book easily and with interest.

Detailed directions for each of these seven steps follow:

Step I - Selecting the 1000 sample words.

1. Find the number of pages in the book, omitting preliminary pages (title page, preface, etc); pages containing pictures only; and pages containing less than one complete sentence of prose. Record number in space provided in upper right hand corner of this chart.

2. Divide 1000 by the number of pages to determine the number of words per page to be used in the sampling, as shown in the following examples:

(a) Book contains 150 pages. Divide 1000 by 150, thus: 150)1000. Quotient is 6. There is a remainder of 100. This tells us that if we tabulate 6 words from every page as shall need 100 more words to equal the requisite 1000. Therefore on the first 100 pages we shall take 6+1 or 7 words, on the 50 remaining pages we shall take 6. 7 x 100 = 700; 6 x 50 = 300. Number of pages = 150; 1000 = Desired number of words. The last words on each page make a fair sampling.

(b) Book contains 300 pages. Divide 1000 by 300, thus: 300)1000. Quotient is 3, remainder is 100. Therefore the last +1 or 4 words on each of the first 100 pages and the last 3 words on each of the last 200 pages are to be tabulated.

(c) Book contains 341 pages. Divide 1000 by 341, thus: 341)1000. Quotient is 2, remainder is 318. Therefore the last 2+1 or 3 words on each of the first 318 pages and the last 2 words on each of the last 23 pages are to be tabulated.

Step II - Tabulating 1000 sample words on other side of sheet.

The fifteen hundred commonest words in Thorndike's Teacher's Word Book[1] are listed on the other side of this sheet. For the purpose of the grade placement formula, all words which are not among these fifteen hundred commonest words are considered uncommon words.

1. Compare the sample words in the book, one by one, with the list of 1500 commonest words. If the first sample word is in the printed list, place a small tally mark (thus:) after that word in the list. If it is not in the printed list, write it in under its initial letter in the blank columns to the right of the printed list, and place the tally mark after it. Continue through the entire 1000 sample words, marking a tally for each time a word occurs - thus:

Common Words	Uncommon Words
a 𝍸𝍸𝍸	absent /
ahle 𝍸𝍸	academy /
about 𝍸	acre 𝍸

In making these tabulations follow carefully the rules for tabulating derived and special forms (see column on this sheet).

2. After the tabulation is completed, a count of the total tallies will serve as a check on the correctness of the tabulation. (This is the sole purpose of tallying the number of times a word occurs.) In case there are a few words less than 1000, select the number of words needed from random pages throughout the book and add to the tabulation. If there are a few words too many, deduct the necessary number at random throughout the book. If the estimating and tabulating have been done carefully, such additions or deductions will not be necessary.

Step III - Finding the number of different words.

1. When the tabulation has been made, count the total number of different words which were tabulated, including both the common words of the printed list and the uncommon words which were listed in the blank spaces on the right hand side of the sheet. This number is recorded in the space provided as (1) the number of different words in 1000.

Step IV - Finding the number of uncommon words.

2. Count the number of uncommon words, i.e., those you have listed on the right hand side of the sheet. Record this number in the space provided as (2) the number of different uncommon words.

Step V - Selecting 75 sample sentences.

1. The net number of pages (exclusive of picture pages, etc.) has been recorded in the upper right hand corner of this chart (Step I).

2. Divide the number of pages by 75 in order to determine the pages from which to select the sample sentences. For example, if there are 150 pages in the book, divide 150 by 75 and take the last complete sentence on every other page.

If there are 327 pages, divide 327 by 75. The quotient is 4 with a considerable remainder. Therefore take the last complete sentence on every fourth or fifth page until seventy-five sentences have been taken. Keep in mind that you want an approximately even distribution from the beginning to the end of the book. If there are 200 pages, divide 75)200. Take the last complete sentence on every second or third page until 75 sentences have been selected. 150 / 50

Step VI - Tabulating sample sentences.

1. List the numbers of the pages from which the sample sentences have been selected, on the "Simple Sentence Count Chart."

2. Examine each sentence to see whether it is simple, following carefully the "Rules for Determining Simple Sentences" given in column 5.

3. After each page number on the "Simple Sentence Count Chart" indicate whether the sample sentence on that page is simple or not simple.

4. Count the number of simple sentences and record in space provided. As a check, count also the number of not simple sentences and record in space provided.

5. The number of simple sentences plus the number not simple should equal 75. If they do not, it indicates that an error has been made either in counting or recording.

Step VII - Combining the data in the formula.

1. In the blank in the upper right hand corner of this sheet, fill in the date on (1) the number of different words in 1000; (2) the number of different uncommon words, and (3) the number of simple sentences in 75.

2. Multiply by the figures indicated. Add the constant term 1.294 to the first two products. Subtract the third product. The result is the school grade in which the book should be classified.

Let us take a sample book - "Beppo the Donkey" by Rhea Wells.

(1) number of different words---------- 325

(2) number of different uncommon words---------- 52

(3) number of simple sentences---------- 34

Grade Placement Formula

No. of different words	325 x .00255	=	.8288
No. of different uncommon words	52 x .0458	=	2.3816
		+	1.294
			4.5044
No. of simple sentences	34 x -.0307	=	-1.0438
	Grade Placement	=	3.4606

This book is graded 3.461 and is placed in third grade. A child's score on a standardized reading test should therefore correspond at least to third grade norms if he is to read the book with fluency and ease.

[1] There are actually 1518 words in the Thorndike list which he indicated by the symbols 1a, 1b, and 2a (1st 500, 2nd 500, and 3rd 500).

[2] Edward L. Thorndike, The Teacher's Word Book. New York, Teachers College, Columbia University, 1921.

RULES FOR TABULATING DERIVED AND SPECIAL FORMS OF WORDS

In tabulating both common and uncommon words one needs the guidance of certain rules. These rules are given below, as succinctly as possible. Special cases and answers to questions that have arisen during tabulations are given afterwards. The rules and exceptions are, in general, Thorndike's. But where Thorndike did not seem sufficiently explicit we have formulated our own rules.

Separate entries are not made of plurals and possessives in s; plurals where y is replaced by ies; adverbs formed by adding ly; comparatives and superlatives formed by adding er (or r) and est (or st) (including changes of y to i and e); verb forms in ing and in s, ed (including changes of y to ies and ied) past participles formed by adding n, and adjectives formed by adding n to proper nouns. For example:

boys, girls, berries are counted in with boy, girl, berry. (But knife and knives, man and men, goose and geese, child and children, etc. are all counted as different words.)

badly, sadly are counted in with bad, sad. (But an adverb formed from an adjective in le, like gently from gentle, count as a different word.)

longer, bravest, are counted in with long, brave.

plays, playing, played are counted in with play.

thrown, outgrown are counted in with throw, outgrow.

Austrian, Bavarian are counted in with Austria, Bavaria.

By entering such derivatives under their primary forms the list is made shorter and easier to use.

There are, however, certain exceptions to the above rules. These are indicated on the list in two ways.

1. If a derived form is separately included in the 1500 commonest words it is separately printed. Should the derived form not belong alphabetically next to the root form, a note following the root form calls attention to the separate listing of the derived form, thus:

lie see ing

2. If the derived form is listed separately by Thorndike but is not among the 1500 commonest words, attention is called to this fact as follows:

dead not ly

The derived form, deadly, therefore, is to be written in as an uncommon word on the right hand side of the sheet and not counted in with the root form, dead, as a common word.

Sometimes both case 1 and case 2 occur for the same root word, thus:

sly is printed as follows: sly not er, see sd

3. If a derived form has been included with the root form in the Thorndike list and is an exception to the general rules, attention is called to this fact as follows:

noble er y

The derived form, nobly, is to be tabulated with the root form, noble, and is not to be written in as an uncommon word.

In case of hyphenated uncommon words, follow Webster's dictionary. Any hyphenated word is considered as one word if it is listed in the dictionary as a hyphenated word. Otherwise it is counted as two words. Compound names of places or persons, like New York, United States, St. Louis, Santa Claus, Van Dyke count as single words.

Tabulate contractions as different words from those from which they are derived. For example:

because and 'cause are two different words.
he's is not tabulated with he or with is, but as a different word.
The same applies to she's, there's, let's, won't, etc.

In most cases on the Thorndike list, no separate entry was made of uses of the same word as different parts of speech. Unless, therefore, there is indication to the contrary, count the word as being the same even when in one context it is a noun and in another a verb, etc.

In case of words which may be both common and proper nouns, count the proper noun as being the same word as the common noun. For example:

Jack and Jack are the same word.
hamlet and Hamlet are the same word.
dolly and Dolly are the same word.

SOME SPECIAL CASES AND ANSWERS TO QUESTIONS

1. Does s added to a word in the list, not forming a plural or possessive, form a different word from the root form?

Yes.

For example: Robert and Roberts are two different words.

2. Are proper nouns which seem to be composed of root and derived forms tabulated with the root form?

No.

For example: Wheeling, the proper name, is not tabulated under wheel.
Browning, the proper name, is listed separately from brown.

3. Are words formed by adding y to a word in the list tabulated as different words from the root word?

Yes.

For example: squawk and squeaky are two different words.
German and Germany are two different words.

4. Are verb forms which are formed by adding ing to the root form and dropping the final e, tabulated with the root form?

Yes.

For example: pace and pacing are tabulated as one word.

5. Are verb forms derived by doubling the final consonant of a verb and adding ing or ed tabulated with the root word?

Yes.

For example: drip, dripped, and dripping are tabulated as one word.
trot, trotted, and trotting are tabulated as one word.

6. Does the rule for tabulating past participles formed by adding n to a verb and adjective formed by adding n to a proper noun in the list also include the addition of en?

No.

For example: flow and flown are one word.
But eat and eaten are two different words.
California and Californian are one word.
But wool and woolen are two different words.

7. Does the rule for adding r or er, and st and est to adjectives include doubling the final consonant of an adjective and adding er and est?

Yes.

For example: red, redder, and reddest are one word.

8. Does the rule for adding r or er to adjectives apply also to nouns formed by adding r or er to other nouns or verbs?

No.

For example: own and owner are two different words.
ride and rider are two different words.

9. Does the rule for adding ly to adjectives to form adverbs include the addition of l only?

No.

For example: terrible and terribly are two different words.
double and doubly are two different words.

10. Does the rule for adding ly to adjectives apply in the case of adjectives formed by adding ly to nouns?

No.

For example: home and homely are two different words.
heaven and heavenly are two different words

11. Does the rule for adding ly to adjectives apply also in the case of dropping e and adding ly?

No.

For example: true and truly are two different words.

12. Are words of different spelling listed in the dictionary as one word, one of which is listed, tabulated as the same word?

Yes.

For example: honor and honour are the same word.
color and colour are the same word.
Frankfort and Frankfurt are the same word.

13. Does a word which is formed by adding two or more suffixes to a listed word (one of which when added to a listed word is tabulated with the root word) form a different word from the root word?

Yes.

For example: happen and happening are counted as the same word.
But happenings is a different word.
excite and excited are counted as the same word.
But excitedly is a different word.

EXCEPTIONS TO RULES IN UNCOMMON WORDS

The following words, while not included in the 1500 commonest, ers included in Thorndike's list of 10,000 and in ceptions to the general rules as to derived forms:

Thus: aeroplane and airplane should be tabulated as the same word, while allied must be tabulated as a differ

Adam (not Adams)	moldy (or mouldy)
aeroplane (or airplane)	oxen (not ox)
ally (not allied)	ox (or oxen)
Argentina (or Argentine)	palefaces (or pale faced)
ax (or axe)	physic (or physics)
ay (not aye)	politic (not politics)
bead (not beading)	pretense (or pretence)
challis (or challie)	rag (not ragged)
Charley (or Charlie)	rascal (not rascally)
chaste (not chasten)	rave (not raven)
cheery (not cheerily)	reverie (or revery)
comfortable (or comfortably)	ripe (not ripen)
concern (not concerning)	rug (not rugged)
cope (not coping - noun)	saber (or sabre)
couple (not coupling)	saint (not saintly)
crave (not craven)	Santa Claus (Class listed separately)
crook (not crooked)	Sara (or Sarah)
defence (or defense)	scepter (or sceptre)
disc (not disk)	sepulcher (or sepulchre)
distinguish (not distinguished)	Servia (or Servian, Serbia, Serbian)
dwell (not dwelling)	sirup (not syrup)
elder (not eldest)	somber (or sombre)
exceed (not exceeding)	specter (or spectre)
froze (not frozen)	steady (not steadily)
ghost (not ghostly)	stole (not stolen)
gipsy (not gypsy)	strew (not strewn)
hasty (not hastily)	swore (not sworn)
hearty (not heartily)	theater (or theatre)
Isabel (or Isable)	thrash (or thresh)
Jesu (not Jesus)	tore (not torn)
lade (not lading)	wed (not wedding)
lone (not lonely)	workman (or workmen)
meager (or meagre)	worst (not worsted)
meter (or metre)	wove (not woven)
miter (or mitre)	wreath (not wreathe)
molder (or moulder)	

RULES FOR SIMPLE SENTENCES

A simple sentence is one which has one subject and one predicate.

In general, we followed the rules of grammar in making our tabulations. There are some special cases needing attention. Below is a list of various types of simple sentences, according to our definition.

1. Simple subject and predicate.

John went home.

2. Simple subject and predicate containing prepositional phrases introduced by the word like.

They lived like moles under the ground, for fear of the pirates and the wolves.

3. Simple subject and predicate containing participial phrases.

And, kissing Arle, she bade her good-by.

4. Only one subject with a compound predicate or vice-versa.

He went and got a big stick and threw it into the hole in the street.

5. Sentences having "you" as understood subject and a compound predicate.

Now get Peter and come with me.

6. Sentences containing a quotation which is not a complete sentence as the object of a verb.

Up! Up! shouted Paul Revere.
"Shame on us," he shouted.

7. Sentence containing phrases introduced by as - counted as simple.

It was safe, just as before.

8. Questions considered as simple.

Did she not?
See the tracks?

9. Simple exclamations.

How good of you to let me out!
What a good thing it is to be a patient!

10. Incomplete sentences consi[dered] as simple.

Fo[r] ... and Water cannot.
... Andy said so.

11. Confusing type with many phrases.

It is the rule and custom of the cupbearer to pour a little of the wine and taste it before handing the cup to me.

12. Simple sentences containing infinitive phrases.

I am going to make them open this door.

13. Sentences with then and as seemingly used like prepositions.

His name was much larger than his house.
Some are as big as a man.

(Strictly speaking these are complex sentences with an implied is at the end, and the words house and man subjects of their clauses rather than objects of the "prepositions" than and as. But we find tabulators have so much difficulty with this that we have ruled such sentences simple, and made the formula accordingly.)

Simple Sentence Count -

Book Title U.S. in the Modern World Author McConnell By ____

Page Number	Simple	Not Simple	Page Number	Simple	Not Simple	Page Number	Simple	Not Simple
3		V	83	V		162		V
6	V		86	V		166	V	
9		V	89		V	170	V	
12	V		92		V	174		V
15	V		95	V		178	V	
18	V		98	V		182		V
22		V	101		V	186		V
25	V		104	V		190	V	
28	V		107		V	194		V
31		V	110		V	198	V	
34		V	113		V	202		V
37		V	116		V	206	V	
40		V	119	V		210	V	
43		V	122		V	217		V
46	V		125	V		221	V	
50		V	128		V	225		V
53	V		131		V	229	V	
56	V		135		V	233	V	
60	V		138		V	237		V
63		V	141		V	241	V	
66		V	144		V	246		V
69	V		147	V		250	V	
72		V	150	V		254	V	
76		V	154		V	260	V	
79	V		158	V		266		V
Total	12	13		10	15		14	11

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The Pacific Ocean — December 22, 1942

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